63RD ANNUAL MEETING • ATLANTIC CITY • SEPT. 25-28

HOSPITALS

JOURNAL OF THE
AMERICAN
HOSPITAL
ASSOCIATION

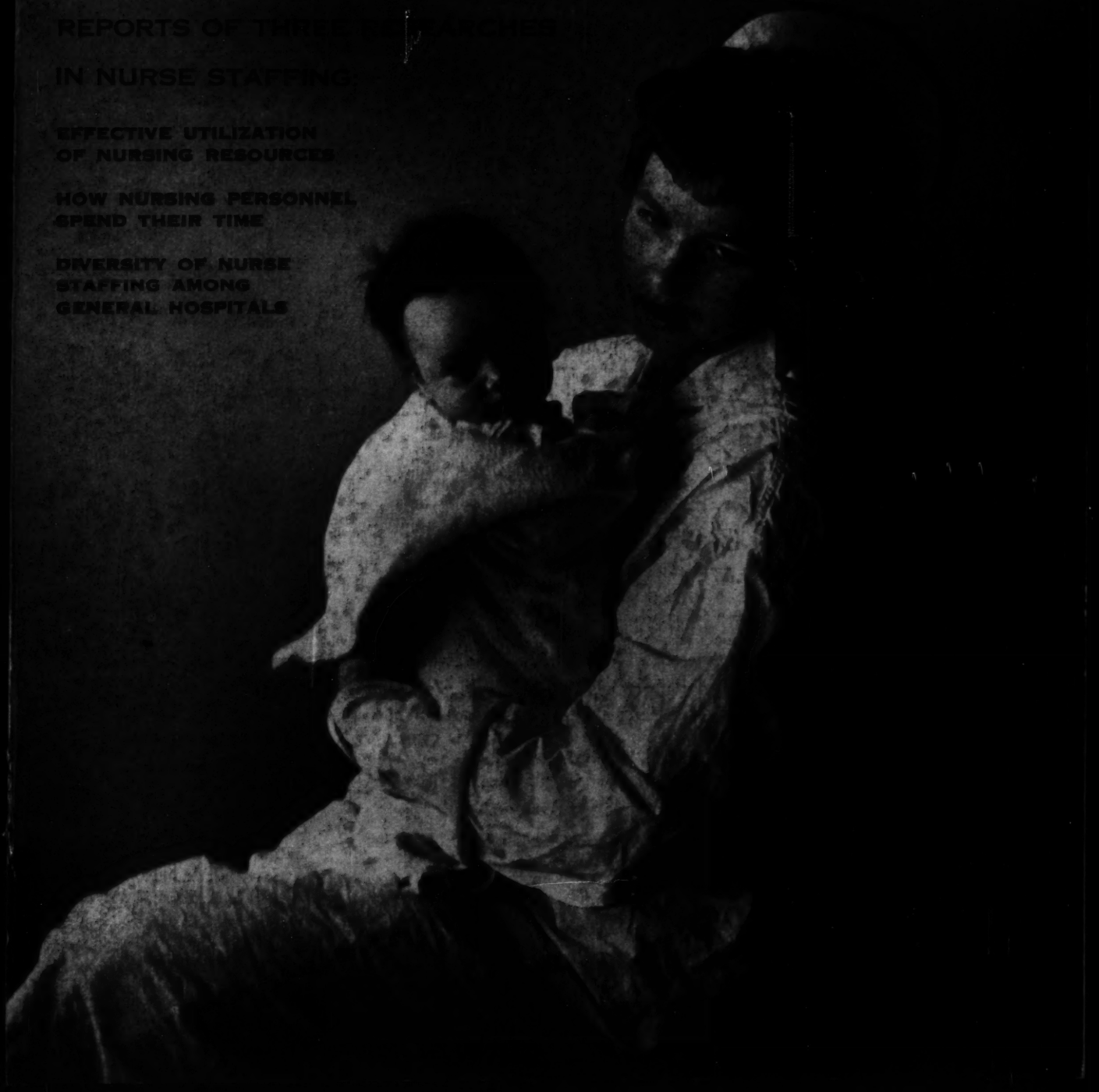
MAY 1, 1961

REPORTS OF THREE RESEARCH PROJECTS IN NURSE STAFFING:

EFFECTIVE UTILIZATION OF NURSING RESOURCES

HOW NURSING PERSONNEL SPEND THEIR TIME

DIVERSITY OF NURSE STAFFING AMONG GENERAL HOSPITALS



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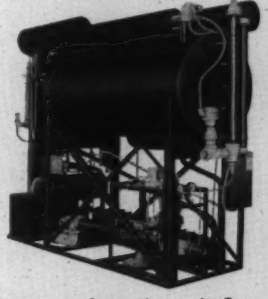

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cover

Estimating a hospital's needs for staff nurses—as typified by the pediatric nurse on our cover—at different times of the day and of the week and year is a problem that vexes hospitals large and small. Reports of research that cast new light on this problem form the major content of this issue, in three articles beginning on page 30. Cover photo by Arthur Leipzig. (Credits for other photos in this issue are on page 114.)

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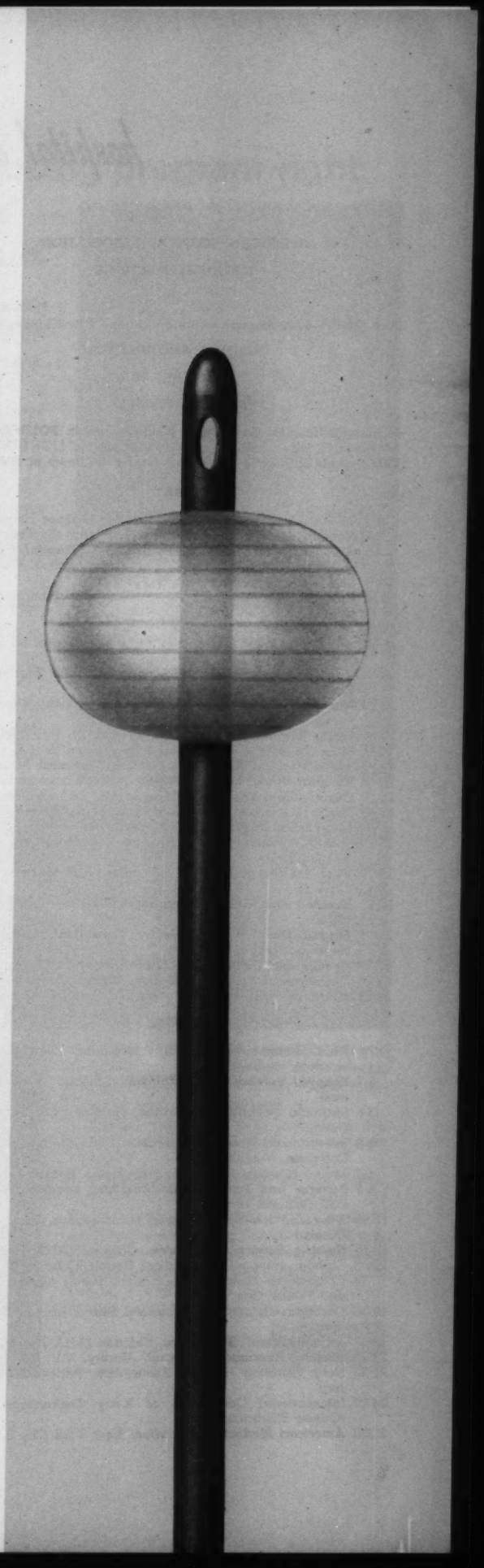

hospital association meetings

AMERICAN HOSPITAL ASSOCIATION

NATIONAL MEETINGS

1961

Sept. 25-28—**63rd Annual Meeting,** Atlantic City (Convention Hall)

MEETING AND INSTITUTE CALENDAR

THROUGH OCTOBER 1961

(American Hospital Association Institutes are in BOLDFACE type. Meetings of other hospital associations are in LIGHTFACE type. ***Other organizations in the health field are shown in ITALICS.)***

MAY

1-3 Tri-State Hospital Assembly, Chicago (Palmer House)
1-4 *National Geriatrics Society,* San Francisco (St. Francis Hotel)
4-5 ***Association of University Programs in Hospital Administration,*** San Antonio, Tex. (Brooke Army Medical Center, Fort Sam Houston)
8-10 **Hospital Organization,** New York City (Sheraton-Atlantic Hotel)
8-10 *National Red Cross Convention,* Cincinnati
8-12 ***American College of Physicians,*** Bal Harbour, Miami Beach (Americana Hotel)
8-12 ***American Psychiatric Association,*** Chicago (Morrison Hotel Auditorium)
9-12 **Nursing Home Administration,** Omaha, Nebr. (Sheraton-Fontenelle Hotel)
10-12 Upper Midwest Hospital Conference, St. Paul (Auditorium)
11 Massachusetts Hospital Assembly, Boston (Statler Hotel)
14-17 Texas Hospital Association, Dallas (Memorial Auditorium)
15-18 **Hospital Dental Service (Basic),** Boston (Somerset Hotel)
15-18 **Occupational Therapists,** Washington, D.C. (Willard Hotel)
17-19 Hospital Association of New York State, Atlantic City, N.J. (Convention Hall)
17-19 Middle Atlantic Hospital Assembly, Atlantic City, N.J. (Convention Hall)
17-19 New Mexico Hospital Association, Albuquerque (Western Skies Hotel)
22-25 **Evening and Night Nursing Service,** Detroit (Pick-Fort Shelby Hotel)
22-26 **Shared Dietitian and Dietary Consultant,** Chicago (AHA Headquarters)
23-24 **Credits and Collections,** Atlanta (Henry Grady Hotel)
24-26 Tennessee Hospital Association, Gatlinburg (Riverside Hotel)
29-31 Arkansas Hospital Association, Hot Springs (Arlington Hotel)

JUNE

1-2 New Hampshire Hospital Association, Newcastle (Wentworth-by-the-Sea)
5-7 **Hospital Purchasing (Advanced),** Chicago (AHA Headquarters)
5-8 Maritime Hospital Association, Halifax, N.S. (Nova Scotian Hotel)
5-9 International Hospital Federation, 12th International Hospital Congress, Venice, Italy
6-7 Maine Hospital Association, Rockland (Samoset Hotel)
6-8 **Patterns and Principles for Auxiliary Leaders,** Washington, D.C. (Willard Hotel)
11-16 American Society of Medical Technologists, Seattle (Olympic Hotel)
12-15 **Nursing Service Supervision,** Chicago (AHA Headquarters)
12-15 Catholic Hospital Association, Detroit (Cobo Hall)
14 Connecticut Hospital Association, Berlin (Connecticut Light and Power Co.)
18-20 Michigan Hospital Association, Grand Rapids (Hotel Pantlind)
19-21 **Administrators' Secretaries,** Chicago (AHA Headquarters)
19-23 **Hospital Pharmacy (General),** Albany, N.Y. (Sienna College)
21-23 North Carolina Hospital Association, Asheville (Grove Park Inn)
24-29 ***International Convention of X-ray Technicians,*** Montreal (Queen Elizabeth Hotel)
25-30 ***American Medical Association,*** New York City (Coliseum)
26-28 Comité des Hopitaux du Québec, Montreal (Show Mart)
26-28 **Supervision,** Little Rock (University of Arkansas Medical Center)

JULY

2-7 ***American Physical Therapy Association,*** Chicago (Palmer House)
12-14 Mississippi Hospital Association, Biloxi (Buena Vista Hotel)
16-21 ***19th Annual Institute of the American Association of Hospital Accountants,*** Indiana University, Bloomington
31-Aug. 4 **Hospital Purchasing (Advanced),** Kansas City (Bellerive Hotel)

AUGUST

7-11 **Hospital Pharmacy,** San Francisco (Guy S. Millberry Union, University of California)
29-30 **Credits and Collections,** Portland (Hotel Benson)

SEPTEMBER

7-8 Montana Hospital Association, East Glacier Park (East Glacier Hotel)
11-15 **Hospital Engineering,** Washington, D.C. (Willard Hotel)
11-15 **Central Service Administration,** Chicago (AHA Headquarters)
23 ***American Association of Hospital Consultants,*** Atlantic City (Shelburne Hotel)
23-25 ***American College of Hospital Administrators,*** Atlantic City (Convention Hall)
25-28 ***American Association of Nurse Anesthetists,*** Atlantic City (Convention Hall)
29-Oct. 8 ***American Society of Clinical Pathologists,*** Seattle (Olympic Hotel)

OCTOBER

2-4 **Hospital Laundry Management and Operation,** Baltimore (Lord Baltimore)
2-6 ***American College of Surgeons,*** Clinical Congress, Chicago (Conrad Hilton Hotel)
2-6 ***American Nursing Home Association,*** Cleveland (Pick-Carter Hotel)
2-6 ***National Federation of Licensed Practical Nurses, Inc.,*** St. Paul (Saint Paul Hotel)
5-6 Saskatchewan Hospital Association, Regina (Hotel Saskatchewan)
9-12 ***American Association of Medical Record Librarians,*** Philadelphia (Benjamin Franklin Hotel)
9-13 **Nursing Service Administration,** Chicago (AHA Headquarters)
10 Hospital Association of Rhode Island, Providence (Sheraton-Biltmore Hotel)
10-12 Associated Hospitals of Alberta, Calgary (Hotel Palliser)
11-12 Vermont Hospital Association, Burlington (Vermont Hotel)
11-13 **Hospital Safety and Insurance,** Dallas, Tex. (Adolphus Hotel)
11-13 Missouri Hospital Association, St. Louis (Sheraton-Jefferson Hotel)
12 Association of Delaware Hospitals, Dover
12-13 Nebraska Hospital Association, Lincoln (Cornhusker Hotel)
16-17 ***National Council on the Aging,*** New York City
16-17 Idaho Hospital Association, Boise (Elks Lodge)
16-18 **Management Development,** Chicago (AHA Headquarters)
16-19 **Staffing Departments of Nursing,** Cincinnati (Sheraton-Gibson Hotel)
16-19 ***American Dental Association,*** Philadelphia (Sheraton Hotel and Convention Hall)
19-20 Arizona Hospital Association, Phoenix (Ramada Inn)
19-21 West Virginia Hospital Association, Morgantown (Morgan Hotel)
22-24 Oregon Hospital Association, Eugene (Eugene Hotel)
22-25 Colorado Hospital Association, Boulder (Harvest House)
22-27 ***American Society of Anesthesiologists, Inc.,*** Los Angeles (Statler Hilton Hotel)
23-25 Ontario Hospital Association, Toronto (Royal York Hotel)
23-27 California Hospital Association, San Diego (El Cortez Hotel)
24-27 ***American Dietetic Association,*** St. Louis (Jefferson-Sheraton Hotel and Kiel Auditorium)
25-28 ***American Association of Blood Banks,*** Chicago (Drake Hotel)
26-28 Washington State Hospital Association, Yakima

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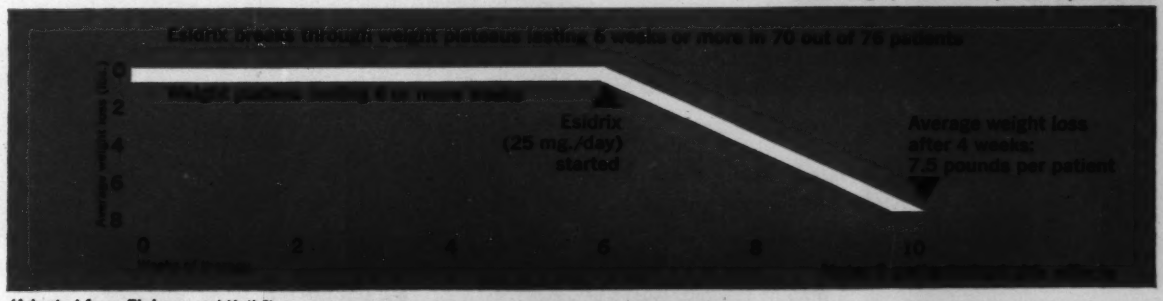
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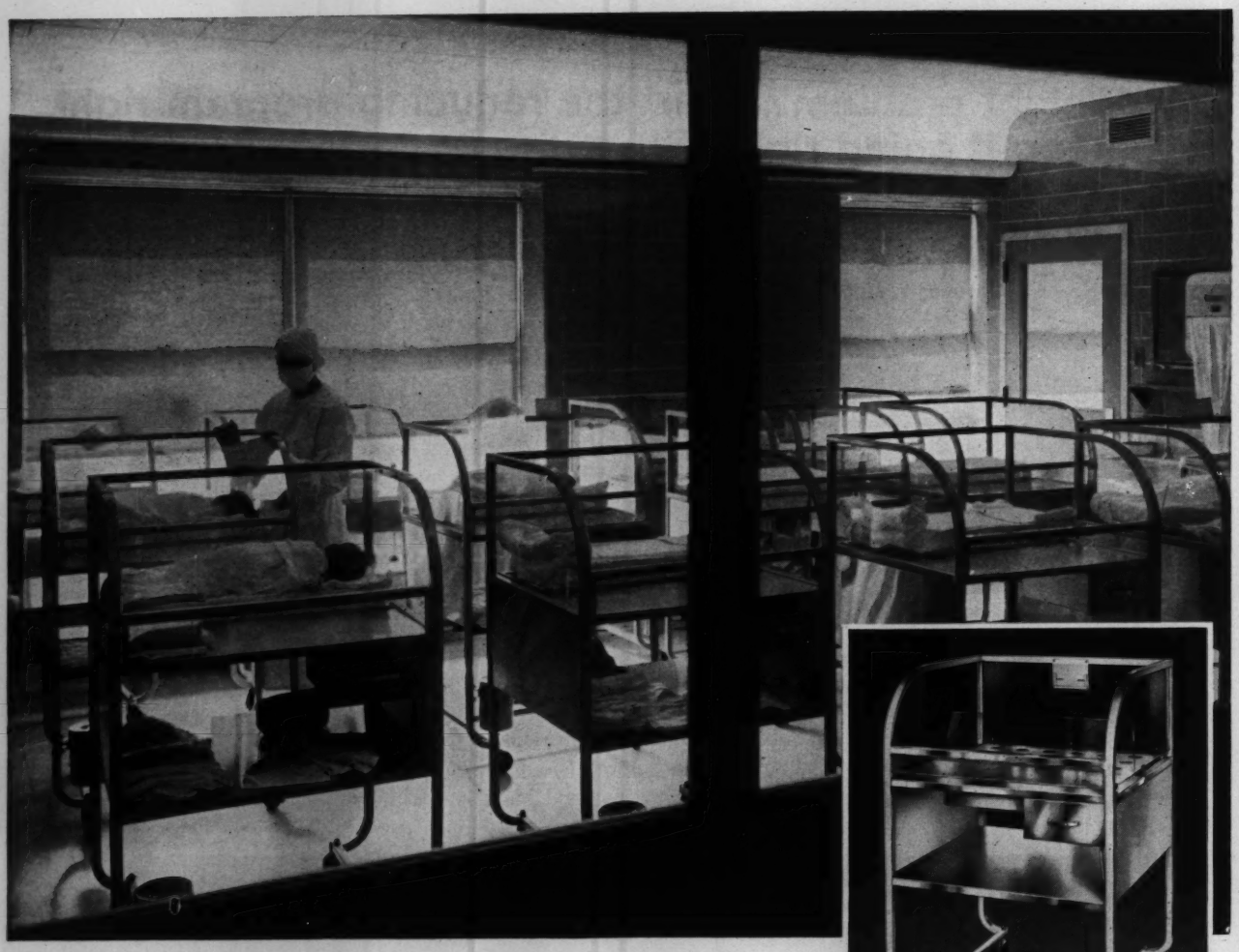

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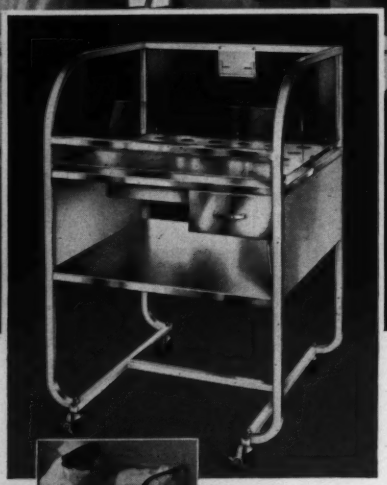

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William L. Wilson *(vice chairman)*, Mary Hitchcock Memorial Hospital, Hanover, N.H.

Term Expires 1962

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Clyde L. Sibley, Birmingham Baptist Hospitals, Birmingham 11, Ala.
W. W. Stadel, M.D., San Diego County General Hospital, San Diego 3, Calif.

Term Expires 1963

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Carl C. Lamley, Stormont-Vail Hospital, Topeka, Kans.
James P. Richardson, Presbyterian Hospital, Charlotte 1, N.C.

Secretary: Kenneth Williamson, Washington Service Bureau, Mills Bldg., 17th St. and Pennsylvania Ave., N.W., Washington 6

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Term Expires 1961

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Richard D. Vanderwarker, Memorial Hospital for Cancer and Allied Diseases, The James Ewing Hospital, New York 21
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Term Expires 1962

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Cecilia H. Hauge, R.N., Department of Medicine and Surgery, Veterans Administration, Washington 25
Henry N. Pratt, M.D., Society of the New York Hospital, New York 21

Term Expires 1963

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David Littauer, M.D., Jewish Hospital of Saint Louis, St. Louis 10
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Chairman: Dean A. Clark, M.D., Massachusetts General Hospital, Boston 14

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James W. Stephan *(vice chairman)*, University of Minnesota, Minneapolis 14

Term Expires 1962

Charles D. Flagle, Johns Hopkins Hospital, Baltimore 5
Walter J. McNerney, University of Michigan School of Business, Ann Arbor, Mich.
Andrew Pattullo, W. K. Kellogg Foundation, Battle Creek, Mich.

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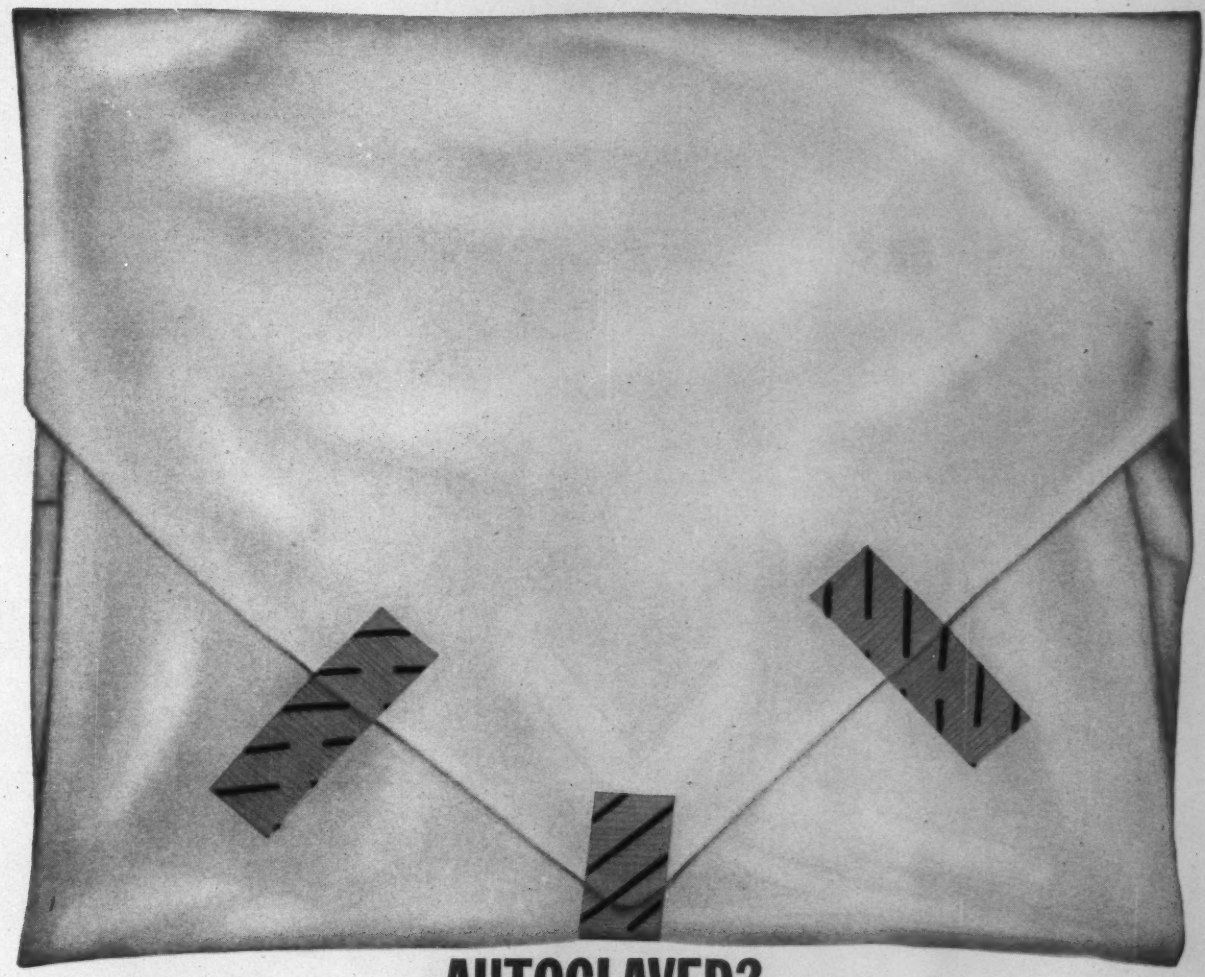

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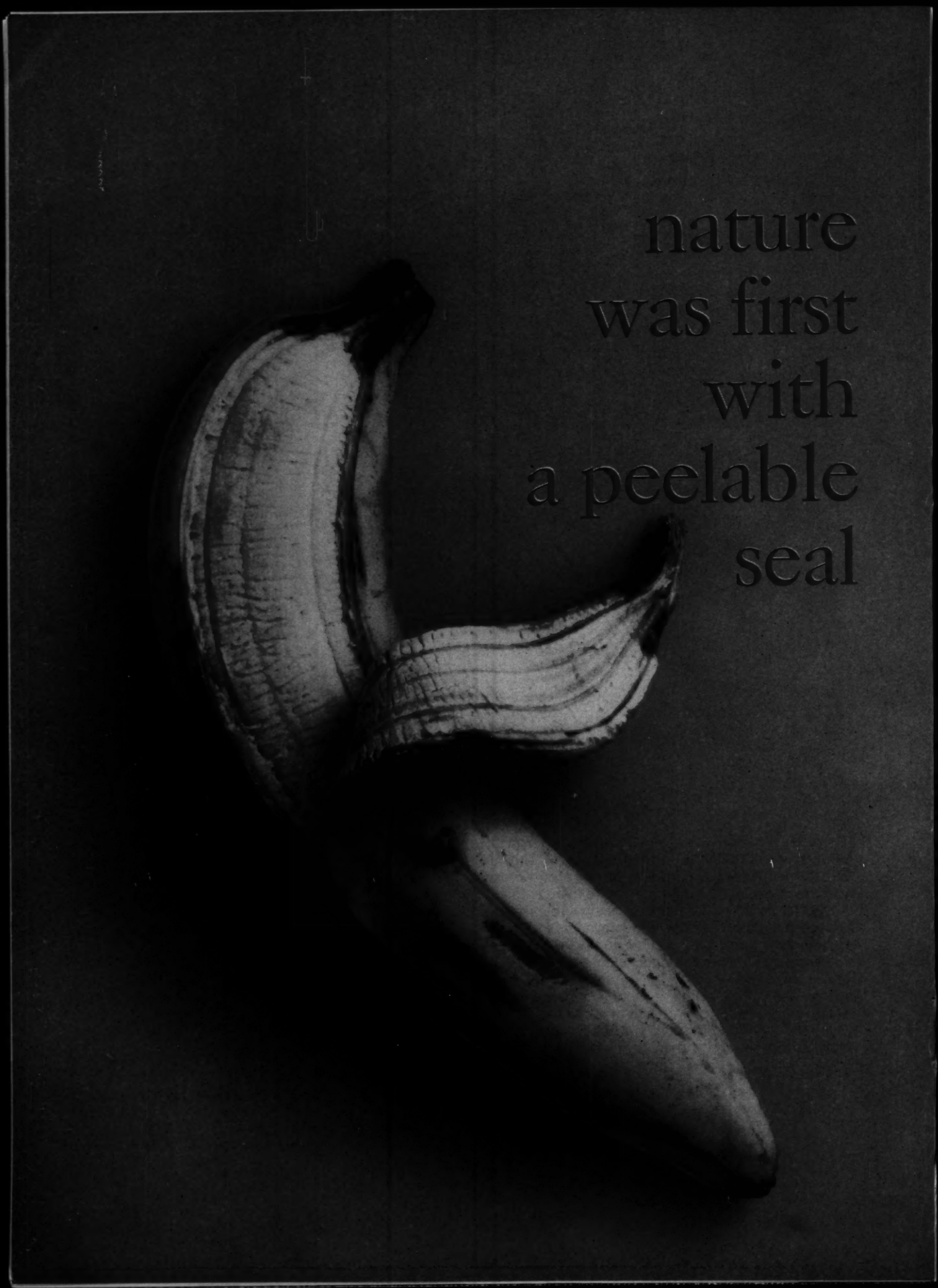
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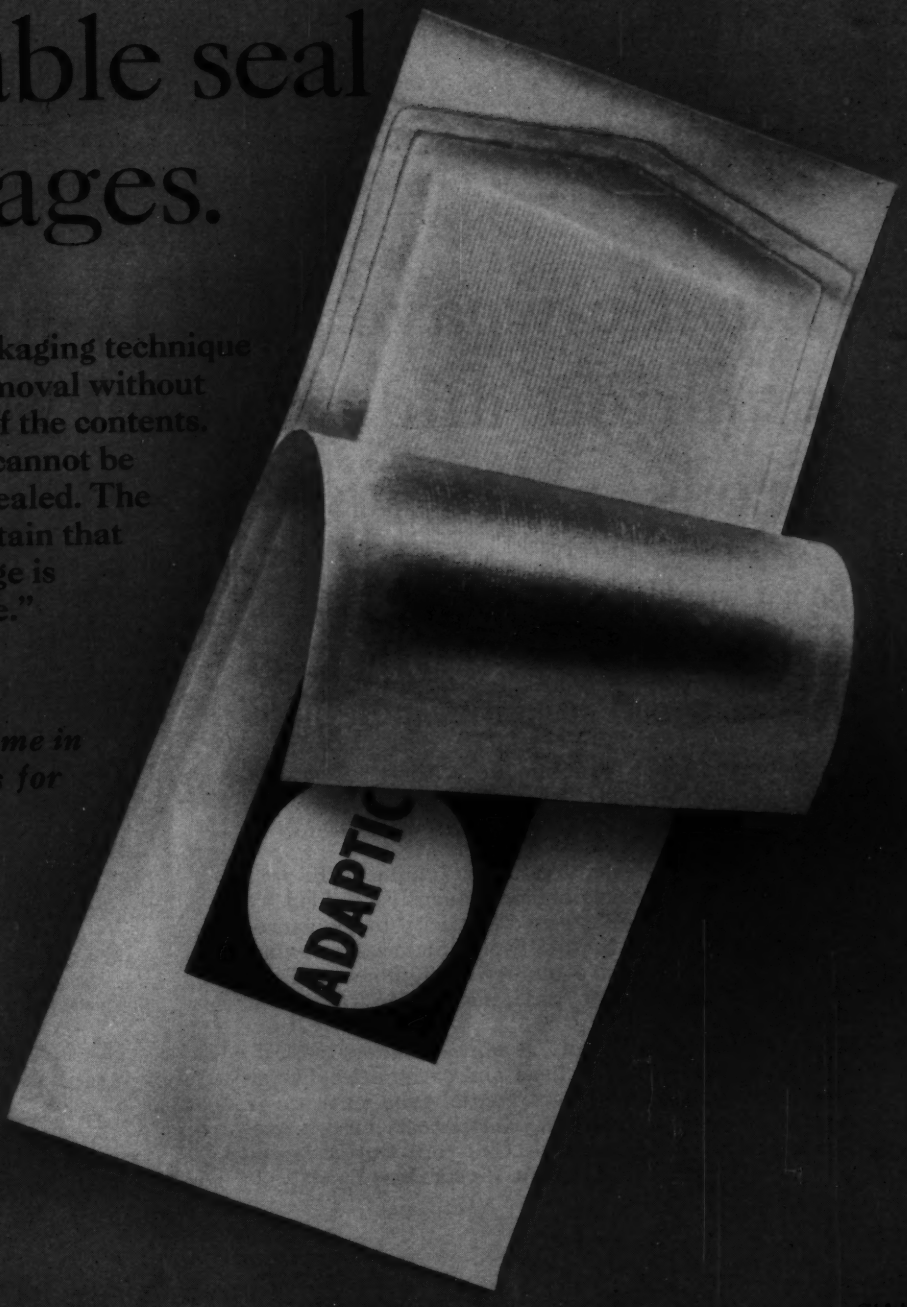

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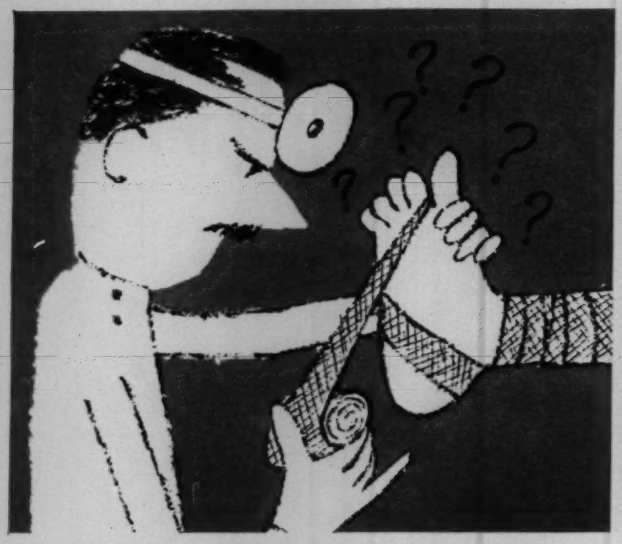

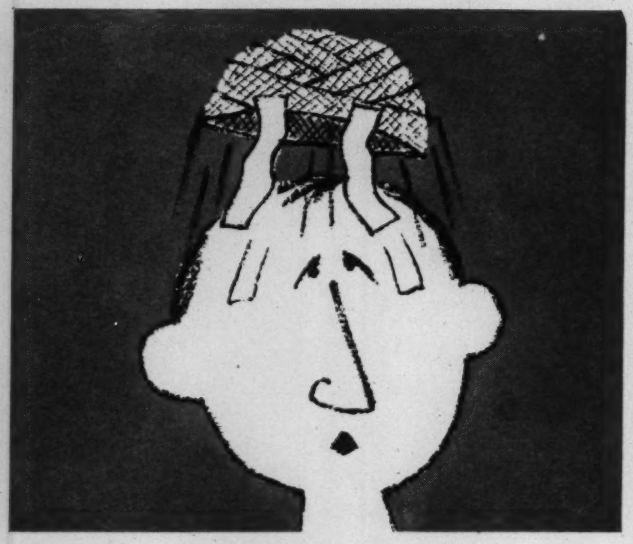

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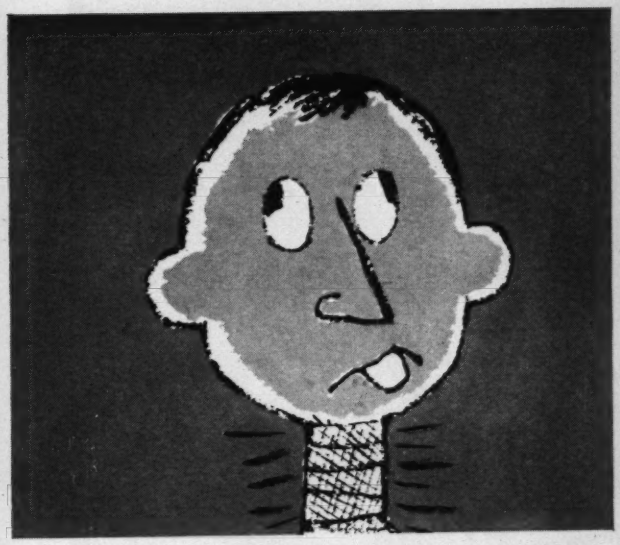
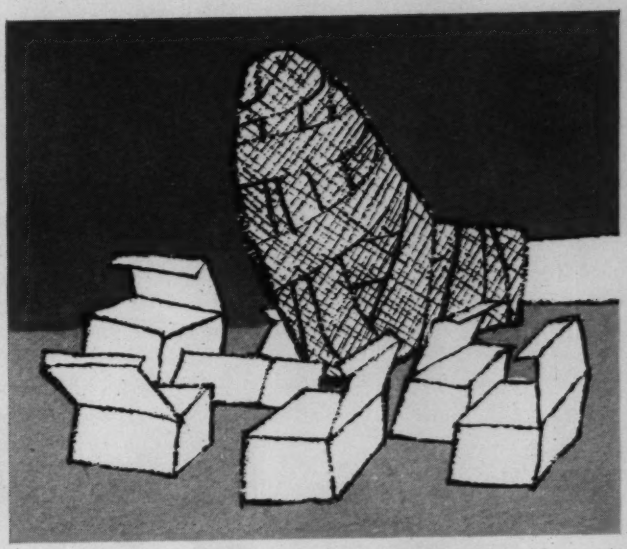
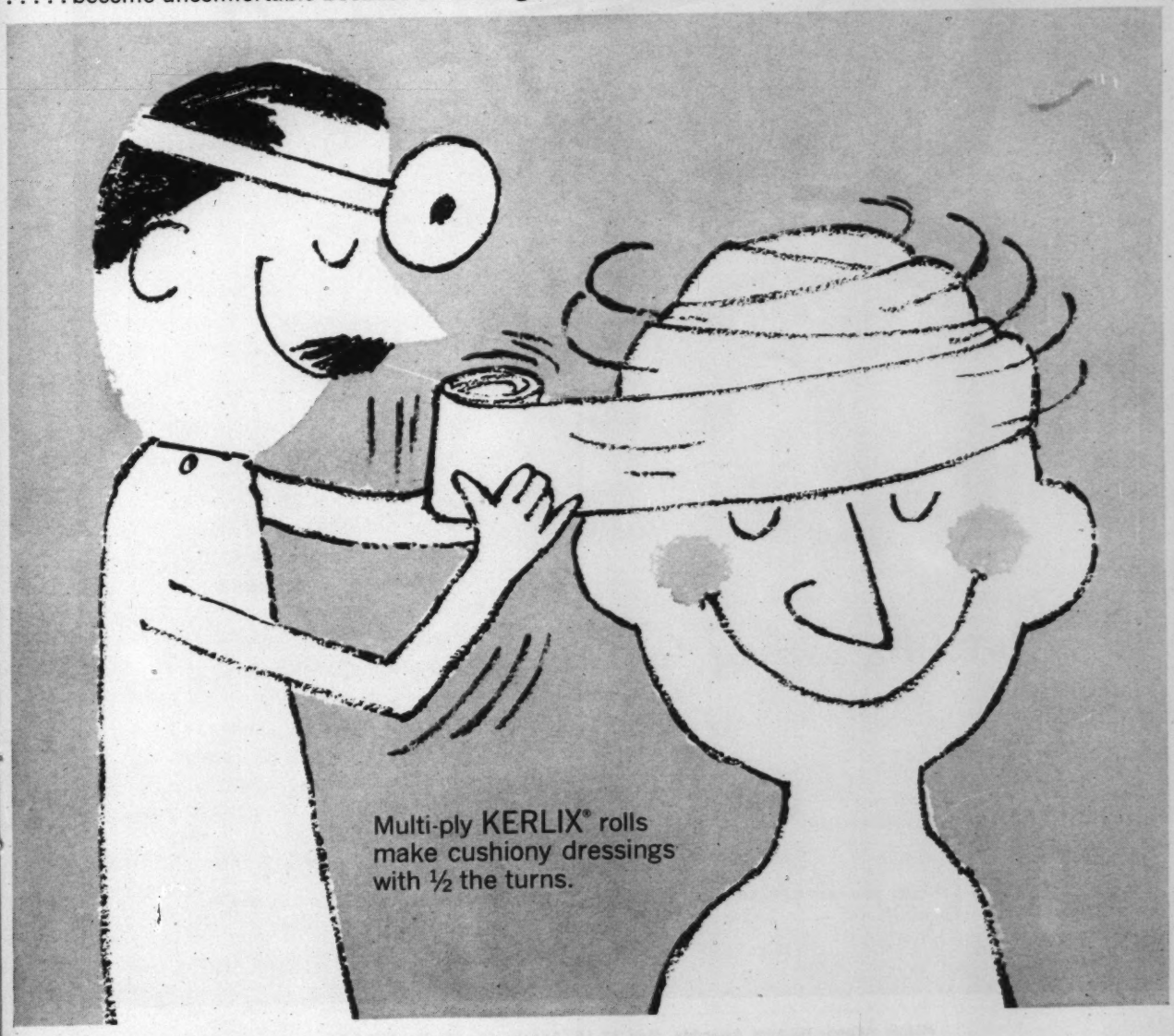




. . . . . become uncomfortable because of swelling . . . . . take boxes of gauze to cushion a wound?



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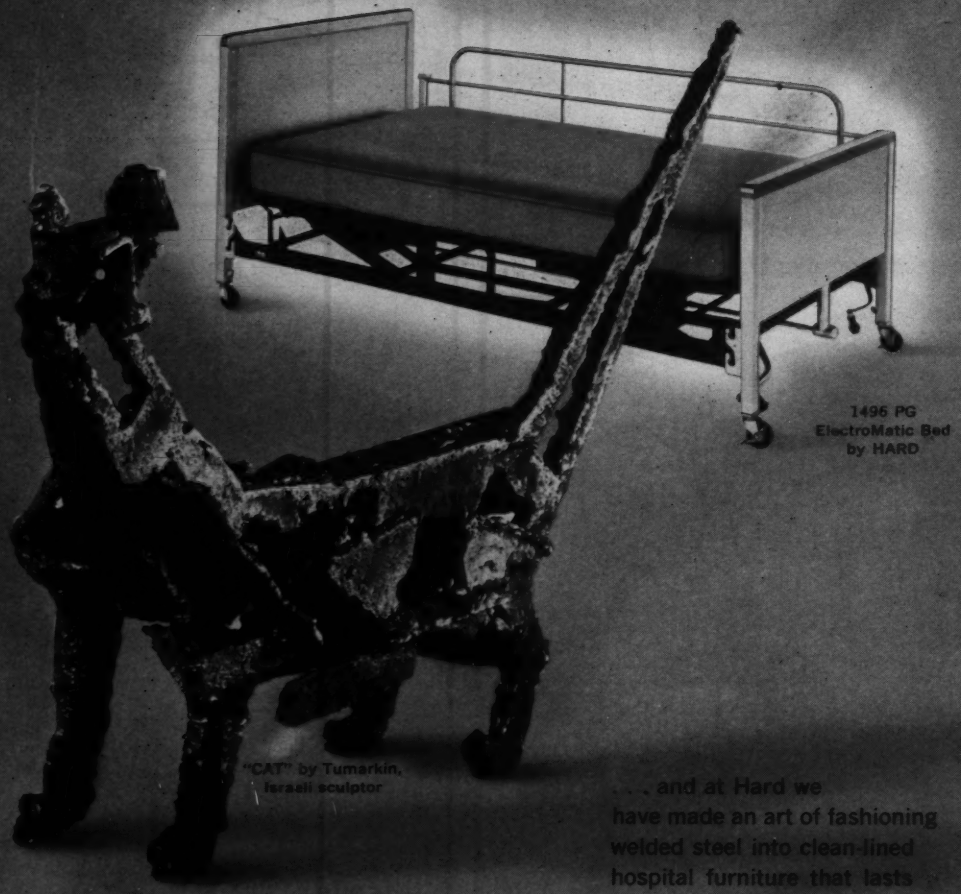

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MICHIGAN BLUE CROSS AND BLUE SHIELD GRANTED RATE BOOSTS—Rate increases averaging 16.2 per cent were approved April 7 for Michigan's Blue Cross and Blue Shield Plans. Insurance Commissioner Frank Blackford granted a 20 per cent increase for Blue Cross and a 10 per cent increase for Blue Shield, effective June 1. The organization last January requested increases of 22 per cent for Blue Cross and 13.5 per cent for Blue Shield.

The insurance commissioner warned that the plans must be improved and their cost stabilized "if these plans are not to be replaced with some other type of health-care plan." He made several recommendations, including a change in state laws to require that a majority on the governing bodies of the two plans be public members.

The increase will cost 3.5 million members of the plans a total of $37 million annually. Commissioner Blackford ordered the plans to put 3 per cent of the monthly premiums in a reserve fund until the fund equals three months' premiums or approximately $6 million.

REPORT FROM WASHINGTON—A representative of the American Hospital Association told a Congressional subcommittee last month that the nation was still suffering from lack of sufficient hospital facilities and especially from a deterioration of existing facilities in urban areas. Karl S. Klicka, M.D., executive director of the Hospital Planning Council of Metropolitan Chicago and a member of the AHA Committee on Hospital Planning, testified before the Subcommittee on Housing of the Senate Banking and Currency Committee, holding hearings on pending housing legislation.

Dr. Klicka underlined the important role of urban hospitals in research, pointing out the inability of many of these hospitals to enlarge their research facilities because of insufficient available land for necessary expansion. He commended Congress for its "positive steps" in the area of housing for student nurses, medical interns and residents, and also for its efforts to provide adequate housing for the elderly.

- The Mills bill (H.R.6027), proposing changes in the Social Security Act to provide an increase in minimum benefits and aged widows' benefits, for optional retirement for men at age 62 and for wider coverage, is tentatively scheduled for House floor consideration on or after April 19. An aged health care proposal (H.R.4222), which provides for financing through the social security system, was still unscheduled in late April.
- A four-year extension of the practical nurse training program has been approved. The bill, S.278 and H.R.4104, extends the program to June 30, 1965, with a ceiling of $5 million per year for grants to states.
- Extension of aid to dependent children moved closer to passage when the Senate Finance Committee approved H.R.4884 on April 13. The bill would provide federal aid under public assistance to children of unemployed parents, as well as those children presently eligible whose fathers are incapacitated, dead or have deserted their families. *(Details p. 98)*

DRUG PRICES SUBJECT OF BILLS IN HOUSE AND SENATE—The price of drugs is the subject of companion bills introduced on April 12 by Sen. Estes Kefauver (D-Tenn.), S.1552, and Rep. Emanuel Celler (D-N.Y.), H.R.6245. The measure would amend the antitrust, patent and food and drug laws in line with the statement made by Senator Kefauver when he introduced his bill, that "the time has arrived for action by the Congress to reduce the excessive and unwarranted (drugs) charges upon those who are least able to afford them —the nation's sick and afflicted." The Senator said the new legislation proposals are based on findings from the "substantially continuous studies and hearings" of the Senate Antitrust and Monopoly Subcommittee since December 1959 on administered prices in the ethical drug industry.

The Kefauver bill was referred to the Senate Judiciary Committee, and the Celler bill to the House Judiciary Committee. In the meantime, when questioned on the two bills at a press conference, President Kennedy said he would check into the possibility of "action executively without the Congress" on the prices of drugs.

AHA PRESIDENT SPEAKS AT NEW ENGLAND HOSPITAL ASSEMBLY—The president of the American Hospital Association, Frank S. Groner, predicted at the New England Hospital Assembly that hospitals would withstand the trend toward centralization and remain free institutions.

Speaking at the annual president's luncheon at the assembly March 20-22 in Boston, Mr. Groner, administrator of the Baptist Memorial Hospital, Memphis, Tenn., stressed the choice hospitals must make between "local authori-

Worth Quoting

"The first responsibility of the administrator . . . is to recognize that there is no escape from his influence, for good or for bad."—Prescott W. Thompson, M.D., of the Menninger Clinic, Topeka, Kans., in an address at the 1961 convention of the National Association of Methodist Hospitals and Homes.

ty" and "federalism." He pointed out that by retaining their right to determine their own financing by strengthening the concept of Blue Cross and Blue Shield, hospitals could withstand the trend.

Edwin L. Crosby, M.D., director of the AHA, set the background for related talks on utilization. He described the basis for current public concern about utilization. Walter J. McNerney, director of the program in hospital administration at the University of Michigan, Ann Arbor, used the findings of studies in Michigan to show that utilization can be measured.

Robert M. Sigmond, executive director, Hospital Council of Western Pennsylvania, Pittsburgh, said hospitals risked losing control if they passed the utilization responsibility to others.

Four speakers on another panel agreed that there had been tremendous changes in the practice of medical care in hospitals. Albert W. Snoke, M.D., executive director, Grace-New Haven Community Hospital, and John L. Rowbotham, M.D., surgeon, New England Deaconess Hospital, Boston, agreed that the physician is the captain of a medical care team and no longer the sole performer. Ruth Sleeper, R.N., director of nursing, Massachusetts General Hospital, Boston, discussed the changing position of the nurse, and Hans O. Mauksch, Ph.D., director, department of patient care research, Presbyterian-St. Luke's Hospital, Chicago, outlined the sharp distinction between home and office practice and hospital practice.

Among the other subjects discussed at the meeting were hospital employees and working conditions, schools of nursing and the student nurse in the hospital. *(Details p. 106)*

▶ GRADUATE NURSING COURSE INITIATED BY NEW YORK MEDICAL COLLEGE—A program of graduate study in nursing to focus exclusively on the clinical practice of medical-surgical nursing, rather than on administration or teaching, will be inaugurated by the New York Medical College Graduate School of Nursing on Sept. 5, 1961.

The program was announced by Ralph E. Snyder, president and dean of the college. He pointed out that for many years the trend in nursing has been toward advancement into administration or teaching, taking the nurse away from direct patient care. "This program," he said, "is designed to provide a channel of professional advancement which will keep the nurse at the bedside, where we believe she can render a unique and invaluable service to better patient care."

Dr. Snyder said the program "is intended to meet the growing need for highly skilled nurse clinicians in specialized fields . . . it will be on a level to qualify the nurse to serve as a partner of the physician and a full member of the professional health team."

The one-year long graduate course, leading to a master of science degree, is open to professional nurses who hold bachelor's degrees.

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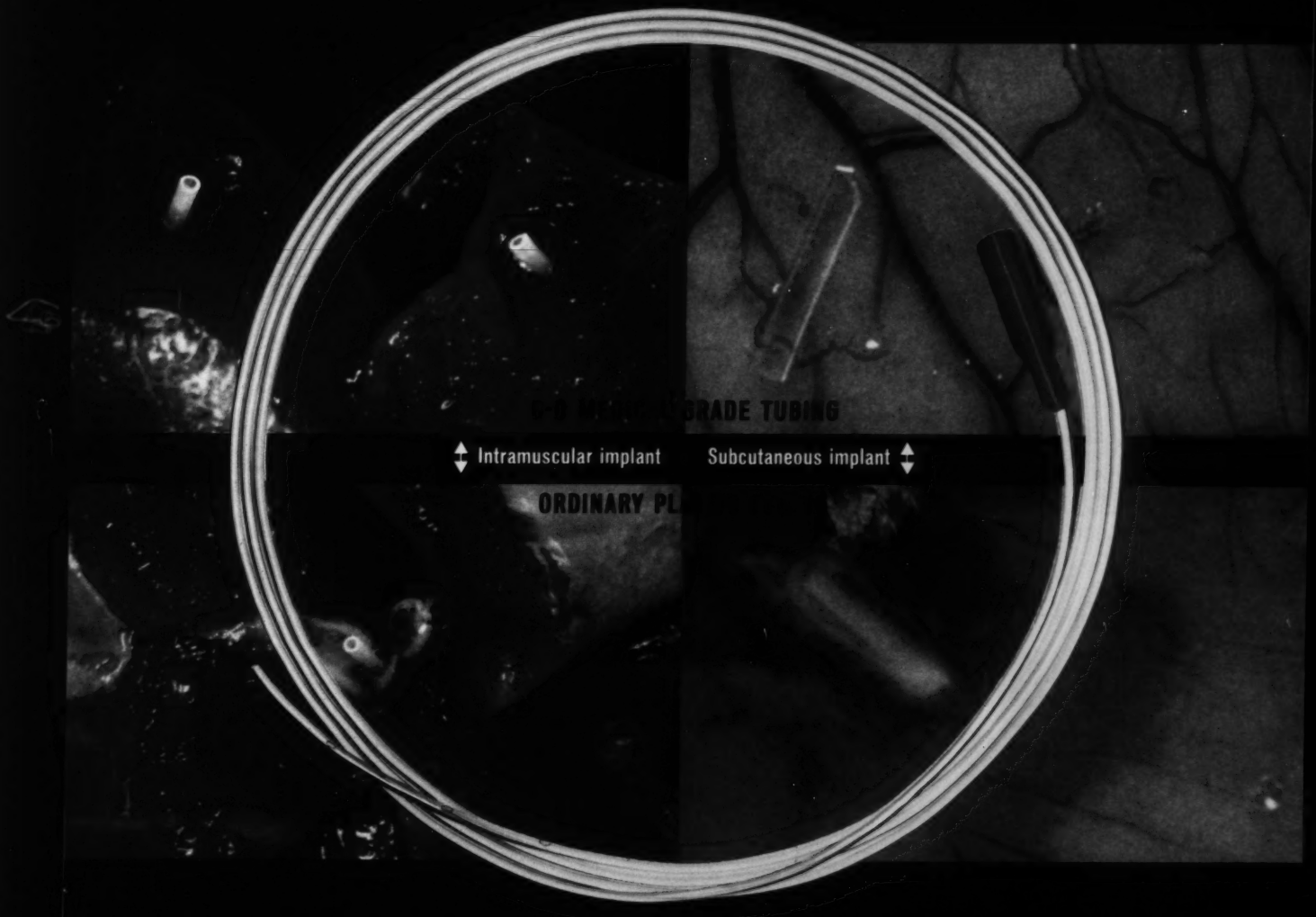

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smooth, unbroken plastic surface...softly rounded distal tips...oval-shaped "eyes" properly positioned for most efficient performance

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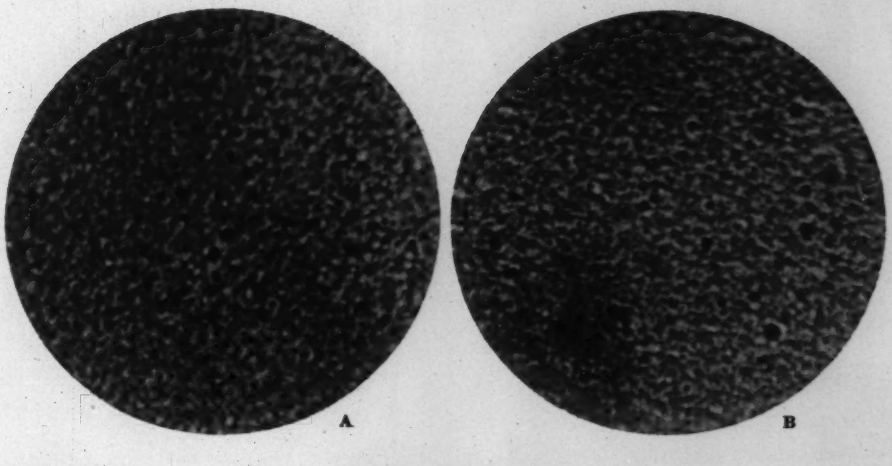

A B

Which is chyle and which is Lipomul I.V.?†

As you know, after digestion, fat passes as an emulsion called chyle through the lacteals into the lymphatics tributary to the thoracic duct, and then into the systemic circulation. Lipomul I. V., like chyle, is a fine milk-white emulsion of fat. Its fat particles approximate those of chyle in size: about *1/7 the diameter of the normal red blood cell.* Because of this minute particle size, like chyle, Lipomul I. V. is *non-irritating to the vein.* The fat provides *8 times more calories* per cc. than does 5% glucose and with markedly increased protein-sparing action. It is *swiftly* and *completely metabolized.* Therefore, when formation of chyle, a major source of calories, is blocked during pre- and post-operative "digestive tract bypass," many surgeons add Lipomul I. V. to their standard fluid and electrolyte regimen to provide the most concentrated source of energy.

†A—Mammalian chyle (highly magnified)
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Formula:

Cottonseed oil	15% w/v
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Lecithin	1.2% w/v
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Water for injection	q.s.

Supplied in 250 cc. and 500 cc. bottles

Indications and effects

Lipomul I. V., fat emulsion for parenteral use, supplies approximately 400 calories per 250 cc. It is indicated in patients who are unable to take adequate food by mouth for any considerable period of time.

Administration and dosage

Administer only by intravenous route, as follows:

For adults

First 5 minutes	10 drops/minute
Next 25 minutes	40 drops/minute
Then	60 drops/minute

For infants and children

First 5 minutes	5 to 10 drops‡/minute
Next 25 minutes	0.5 to 1 drop per pound/minute
Then	0.5 to 1 drop per pound/minute

‡*1 cc.—approximately 20 drops.*

Precautions and side effects

To administer, use only the recipient set supplied in the package; Lipomul I. V. must not be mixed with transfusions, infusions, or any other parenteral medication, or be given simultaneously through the same tubing. A total of not more than 14 units (500 cc. each), at a rate not exceeding 2 units per day, should be given to any one patient.

Reactions of a "colloid" type may occur, including back or chest pain, dyspnea, severe flushing, or urticaria. There may be delayed chill. Transient fever has also been noted, as have such other minor reactions as nausea, vomiting, abdominal discomfort, headache, mild flushing, dizziness, and some variations in blood pressure and pulse.

When the recommended dosage is exceeded, an "overloading syndrome" may occur characterized by chill, fever, abdominal pain, nausea, vomiting, hepatomegaly, clotting defects, thrombocytopenia, and bleeding, particularly from the gastrointestinal tract.

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Winthrop Laboratories

If desired, epinephrine may be used in infiltration anesthesia for hemostasis.

opinions and ideas

Price tags on equipment promote careful use

Labeling expensive equipment with "perpetual price tags" is advocated by George Bevans of the Systems Council, New York, as a means of promoting careful handling by employees and cutting maintenance charges.

This type of labeling was introduced by James Clay, manager of the Omaha, Nebr., plant of the Paramount Paper Products Co. Pressure-sensitive tape is used for the labels which read: "The replacement cost of this machine is $____. Use it with care." Equipment throughout a plant or institution is labeled with this tape with the cost inserted. As cost of equipment rises, the old labels may be easily removed and new labels showing the higher price may be substituted.

This system of labeling is used in many industrial plants and is suggested for labeling expensive equipment in hospitals such as x-ray machines, diathermy machines, autoclaves and oxygen dispensers. ■

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NEW SUPER EDISONITE

. . . pound for pound, makes twice as much solution as other leading cleansers!

- **SUPER MILD** . . . new low pH of 8.0. Kinder to hands, skin and delicate instruments.
- **DISSOLVES 40% FASTER** . . . even in hardest water. Leaves equipment clean, film-free, streakless.
- **NEW CLEANING EFFICIENCY** . . . has super wetting efficiency double that of ordinary cleansers.
- **SAFE FOR DELICATE INSTRUMENTS** . . . won't tarnish, pit or corrode surgical instruments, rubber, glassware.
- **GREATER ECONOMY** . . . costs less *per gallon of solution*. This is what counts, not cost per pound!

SEND FOR FREE TEST SAMPLE!

Compare new SUPER EDISONITE with the cleanser you're now using. Mail coupon for free 3-oz. test package, sufficient for 12 gallons of solution.

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Please send free 3-oz. package (makes 12 gallons) Test Sample of new SUPER EDISONITE for my personal evaluation.

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Holder for intravenous equipment wins prize

A convenient and inexpensive device for suspending intravenous equipment over the patient's bed won the first prize in the Idaho Hospital Association's first annual "Search for New Hospital Service Ideas" contest. Its inventor, Cecil J. Likens, engineer, Samaritan Community Hospital, Nampa, Idaho, was given a cash award for this idea at the Idaho association's annual banquet.

The wall standard is made by placing a movable bar in a wall socket above the patient's bed in each room. A cross piece fastened at a right angle to the end of the bar is bent into curved hooks to hold the intravenous equipment. The bar extends over the patient's bed when in use, or swings to the wall when not in use. Cost for all material to make wall standards for 40 units was less than $15, reports Mr. Likens. Total cost would also take into consideration the work of the hospital engineer in cutting, fitting and mounting the standards.

Such built-in standards have been in use at the Idaho hospital for about five years and have eliminated the need for floor standards. They do not interfere with side rails and are inconspicuous since they can be painted the same color as the wall.

Engineer Likens' detailed description of the standard follows: Wall socket: Selected half-inch

(Continued on page 27)

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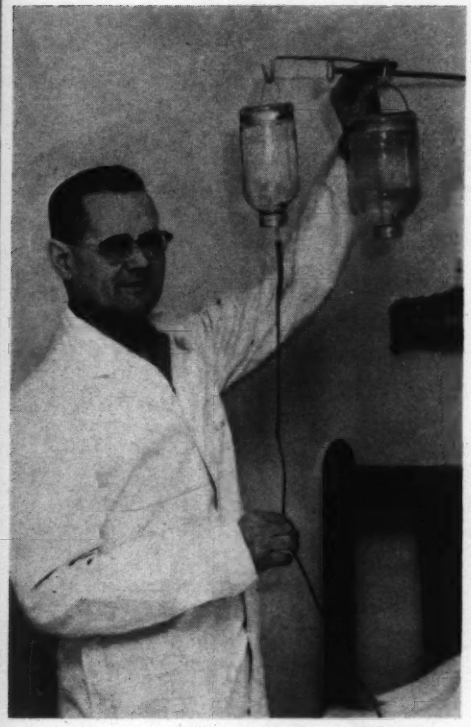

WALL STANDARD for holding intravenous equipment above the patient's bed consists of a movable bar fitted into a wall socket. A cross bar is fastened to the end of the movable bar with the ends bent into curved hooks to hold the intravenous bottles.

pipe welded to a narrow steel bar about half-inch wide attached to wall securely with screws.

Bar: Made of ⅜-inch mild steel; 24 inches long. A piece of half-inch mild steel is welded to one end of bar at right angle to fit the socket.

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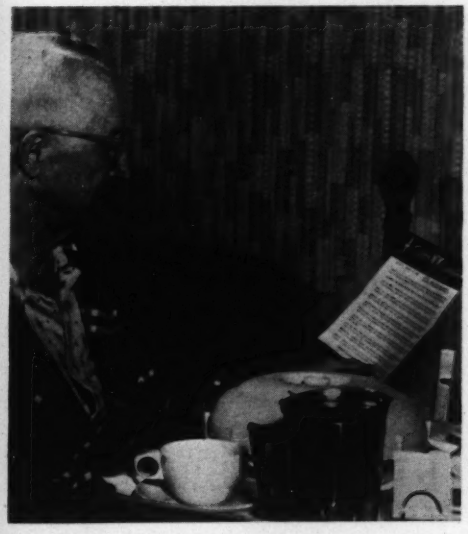

Patient reads newsletter which is distributed Monday through Saturday on noon meal trays at St. Luke's Methodist Hospital, Cedar Rapids, Iowa. Included with short summaries of late news developments is information about the hospital and about Blue Cross.

Radio stations cooperate in newsletters for patients

Two hospitals have found newsletters for patients produced in cooperation with local radio stations an effective means of boosting patient morale, as well as a good public relations tool. Both the Women's College Hospital, Toronto, Ontario, Canada, and St. Luke's Methodist Hospital, Cedar Rapids, Iowa, distribute one-page mimeographed newsletters containing late news items and messages from the hospital.

According to information received from Louis B. Blair, superintendent, noon news bulletins at St. Luke's Methodist Hospital consist chiefly of two- or three-line news summaries furnished by Radio Station WMT. Interspersed with these news items are two items giving information about the hospital or about Blue Cross (which have been approved by an administrative officer) and one item about a Station WMT feature presentation. Between 10 a.m. and noon, the information is received, stencils are prepared and the bulletin is mimeographed at the hospital. The newsletters are placed on patients' noon meal trays. Additional copies are available for employees in their dining room and for the public in the snack shop.

The *Bedside Reporter* is the name of the newsletter for patients at the Women's College Hospital in Toronto. Every morning, Monday to Friday, Radio Station CFRB sends to the hospital a typewritten stencil of news items of a type which will not be upsetting to the patients. A hospital message is usually added to the bulletin. The hospital uses its own duplicating machine to reproduce the newsletter, but the paper is furnished by the radio station. ■

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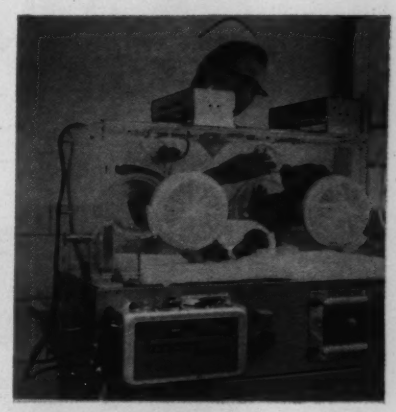

infant's body temperature. Infant's actual body temperature controls infra-red lamps by thermistor on abdomen sensitive to changes as slight as 0.5°F. The lamps provide the necessary supplementary heat source to maintain a stabilized predetermined temperature.

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editorial notes

—*a present urgent need*

IT IS TIME TO appraise the action being taken by various agencies in their efforts to halt the present resurgence of venereal disease. This rise in venereal disease began in 1955; in 1961, the trend for increased national morbidity continues.

The Public Health Service reports that in 1961, infectious syphilis cases increased to 12,484—52.7 per cent over 1959 and 87.4 per cent over 1958. Among the states showing high increases in 1960 over 1959 were: Arizona, 104 per cent; Minnesota, 104 per cent; District of Columbia, 143 per cent; Louisiana, 178 per cent; Washington, 237 per cent; and Oregon, 325 per cent.

According to the Public Health Service, cities with populations over 200,000 are considered to be top venereal disease problem areas. Of the 369,554 total cases of venereal disease reported in 1960, these cities accounted for 53 per cent.

Many reasons are given for this upsurge in venereal disease. Epidemiological failure has been cited as one cause. This includes the failure of private physicians and hospitals to report all cases, and the failure of laboratories to report positive reactive serologic tests and gonorrheal smears. Also included are: (1) failure to interview cases reported by private physicians and (2) failure to locate sex contacts of patients interviewed.

EXPLODING URBAN populations are being accompanied by explosive rates in infectious syphilis. There is reason to feel that part of this increase is due to the improved reporting by private physicians, hospitals and laboratories as a result of better cooperation between these groups and health departments. Nevertheless, many state and city health departments report: (1) under-reporting by private physicians and hospitals; (2) lack of reporting of cases treated; (3) incomplete hospital laboratory reporting, and (4) no reporting of results of syphilis serologic tests by some large hospitals.

Aside from some failures to block the upsurgence of venereal disease, it cannot be denied that a great deal of progress has been made in venereal disease control. Credit for some of this must be given to the better reporting aforementioned. But even more is needed. Unless even better cooperation is developed between health departments and private physicians and hospitals in venereal disease case reporting, and in epidemiological follow-up of sex contacts, there will be inevitably an increase in cases of undiscovered syphilis and untreated syphilis. Unattended, such syphilis will advance into cardiovascular disease, mental disease and in some instances, death will result. For these reasons, better collaboration among hospitals and private physicians is being urged by health departments in the matter of venereal disease reporting. This is imperative if every case of syphilis is to be found and treated. The health department follow-up on each reported case is accomplished in the strictest confidence.

All health departments (except one state and two city) provide epidemiological services to private physicians and hospitals who report infectious syphilis. The Public Health Service estimates that annually 13,000,000 syphilis serologic tests are done by private and hospital laboratories. Health departments provide epidemiological follow-up of all reported reactors. The present urgent need: That all serological test reactors be reported to health departments.

REGIONAL SEMINARS on all phases of venereal disease are held once a year by the Public Health Service. Among the topics covered are laboratory procedures and reporting of venereal disease. There are also group discussions to meet the needs of hospital administrators, physicians, nurses, health officers and others working in the venereal disease field. These seminars might be of special interest to hospital administrators in view of the present resurgence of venereal disease.

Hospital administrators can help the venereal disease control program by inculcating their professional staffs with the serious nature of the venereal disease problem, and enlisting the interest of hospital physicians and laboratory directors to cooperate with health departments in all phases of the venereal disease control program.

Cook County Hospital, Chicago, is an excellent example of a hospital cooperating with a health

(Continued on page 110)

EFFECTIVE USE OF NURSING RESOURCES:

A RESEARCH REPORT

by ROBERT J. CONNOR, Dr.Eng.;

A system of patient classification by severity of illness to determine nursing requirements on a day-to-day basis is described by the authors in this report of an extensive research project. How demand for certain supplies, such as linen, can also be predicted through this system is explained. The report points out that better utilization of personnel and supplies calls for flexibility in the whole hospital in order to meet the shifting needs.

IN ITS efforts to cope with serious operational problems, hospital management has called upon many skills for help. Among the relative newcomers to the hospital scene are specialists in research in the physical and social sciences. The hope is that their training in the techniques of inquiry and analysis of complex physical and human systems may shed useful light.

One such research group, representing several academic disciplines, has been formed at the Johns Hopkins University and Hospital. Within the complete scope of its work,[1] a principal effort has been directed toward problems of matching personnel resources, particularly nursing, to patient needs. This particular work is described in this article.*

From several years of observation and analysis of the many activities that form patient care in a hospital, we are able to draw some conclusions which are significant in our search for improved hospital organization and function.

It will surprise no one that our research group has noted a great range from day to day in the total hours spent by nurses with patients. Intermittently busy and light days are familiar experience. However, the magnitude of this range in daily patient needs, when expressed quantitatively in nursing hours, is shown to be a matter that deserves more serious and formal concern than it has received in the past. In terms of direct care, the "busy" day may require more than twice the nurse hours which suffice for the "light" day.

Under any circumstances, the design of an organization to accommodate efficiently such wide swings in demand on its resources poses difficult problems. In the case of the hospital nursing unit, the problem is aggravated by the fact that the principal determinant of work load, the number of critically ill patients, is determined by chance.

The major implication of this, from the administrative point of view, is that no single level of staff or supply is suitable. The large staff and inventory which insure against the heavy day are wasteful of resources at other times. The assignments planned for the "average" day are sometimes inadequate and sometimes excessive. We must look for flexibility and sensitive guides to allocation of resources if the goals of economy and consistent standards of care are to be achieved simultaneously.

DIRECT CARE INDEX

Fortunately, the observation technique which has been developed for purposes of this research to measure degree of patient need lends itself readily to practical use. We have developed the daily measure of patient needs into a Direct Care Index, a measure of the number of daily nurse hours of direct patient care required to provide the current standards of care.

This index has been in use throughout two buildings of the Johns Hopkins Hospital as a guide for equitable distribution of some supply and assignment of nursing staff hours. The index is computed for each unit by nursing administration, based upon a patient condition questionnaire completed daily by head nurses. The most significant reaction that can be taken to changes in the index is the movement of nursing personnel or patients so as to match nursing resources to the changing needs for them.

The emphasis of our work, although it began with the study of external support of nursing, is

At the time of the study, the authors were all members of the operations research division of the Johns Hopkins Hospital under the direction of Dr. Flagle. Dr. Connor is now assistant professor at the University of Chicago; Miss Preston is research associate, School of Medicine, University of North Carolina, Chapel Hill.

*The work described is supported in part by U.S. Public Health Service Research Grants GN-5537 from the Division of Nursing Resources and W-167 from the Division of Hospital and Medical Facilities.

CHARLES D. FLAGLE, Dr.Eng.; RICHARD K. C. HSIEH; RUTH A. PRESTON, R.N., and SIDNEY SINGER

now upon systems that involve the whole range of nursing activity itself, from direct care to administration. This emphasis is practical and realistic and is a reflection of the principal conclusion to be drawn from our work so far. The potential contributions that the physician, the administrator, the manufacturer and the architect can make have been found to be substantial, but their effects can be lost if corresponding steps are not taken within the nursing organization.

The greatest potential for improved utilization of nursing resources lies within the nursing organization itself. The key to improved operations is the appropriate reaction by administration to a continuous flow of information about patient needs. The source of this information must be the head nurse and nursing administration.

EARLY STUDIES

Earlier studies have disclosed both a need for and a great potential for economic improvement and better utilization of nursing. A work sampling study at the Johns Hopkins Hospital by George Cramer,[2] made in a period when throughout the country some hospital floors were closed for lack of nursing staff, has shown large amounts of professional nursing time spent in nonnursing tasks. This distressing paradox of simultaneous surplus and apparent shortage of nursing personnel gave much impetus to the studies described here.

Exploratory cost analyses by our own group confirmed those reported in the hospital literature: that there were inherent savings in the substitution of purchased materials and service for direct labor of nursing staff in the cleaning and sterilization of equipment. An equally promising potential lay in substitution of clerical and ancillary service labor for nursing personnel in tasks that did not require nursing skill.

In almost all alternative procedures studied—for example, the use of disposable medicine cups and prepackaged enemas, the centralization of sterile supply, the transfer of requisitioning, distribution and maintenance activities to administrative services—nursing time was saved, and in such amounts that its value at current wage levels exceeded the cost of new supplies and administrative support.

To the industrial engineers on our team, this outcome was entirely compatible with experience in other fields. The social, economic and technological changes of the 20th Century have tended everywhere to place an increasing value on the time of skilled persons. The factors that have made hypodermic syringes and needles available at a cost in pennies and the forces that simultaneously have made nursing hours scarce and costly stem from the same roots.

The problem, of course, was to introduce new developments in such a way that the nursing time released could be used for more widespread patient care. The problem was not a simple one, because all procedures studied released nursing time in minutes here and there. How could these minutes be combined effectively to release whole persons for duty elsewhere? How could the savings in labor and overhead be recovered in net dollar reduction in operating costs?

Because of the relatively small and fragmented contribution of each of the labor-saving procedures and materials, it was quickly apparent that their piecemeal adoption, although setting free some nursing time, resulted in a net increase in material cost. What was needed was not a set of independent, uncoordinated changes, but a total system, a coordinate plan for balanced utilization of (1) professional and auxiliary nursing time, (2) externally purchased service and supply and (3) the increasing capabilities of administrative and ancillary personnel.

We recognized that the search for improved organization would be difficult and complex. Among other things, it would require definition of capabilities, duties and status of the nursing auxiliary, a relatively new but large and important personnel group whose uncertainties were reflected in high turnover rates. Also, few of the alternatives for improvement could be consid-

ered purely nursing matters but involved cooperative efforts of other hospital departments. The ultimate solution, we saw, would be a long-term one. In support of our research effort, the hospital took three steps of major importance:

1. One ward, the sixth floor of the Osler Medical Clinic at the Johns Hopkins Hospital, was designated as experimental for detailed study and for the purpose of developing new systems of staffing, supply and operation.

2. The hospital, in anticipation of an ultimately successful outcome of the research studies, adopted many labor-saving procedures and items of equipment for use throughout the hospital.

3. The hospital's operations research division made application for a research grant, implying that the problem was a universal one, the solution of which would have general value.

Following this, we suggested a number of changes in the experimental area, and some of these were extended throughout the hospital. Patient escort to radiology was begun; housekeeping absorbed many duties previously carried out by nursing, and central stores supplied wards automatically, without need for nursing requisitions. In addition, central supply was established by administrative services and a vast array of prepackaged disposable items was introduced.

These benefits reached a height early in 1958, at which time it appeared that all this was to no avail. The nursing staff still complained of overwork and understaffing—and justifiably. We were forced to conclude that there were factors in the situation that absorbed the labor-saving benefits made to that point.

The dominant unfavorable factor was soon discovered. Through the last half of 1957, we had carried out a set of basic studies: observations of time by nurses with patients, counts of visits to patients' beds and counts of linen consumption by individual patients.

VALUE OF STUDIES

These studies showed a wide day-to-day variation in total nurse work load and total consumption of supply. At the same time, they showed that the rise and fall in work load was directly determined by the number of critically ill, helpless patients on the ward. Further investigation led to the conclusion that the variation experienced resulted from an inherent property of severe illness and accident, which obeyed almost blindly the laws of chance.[3] Even with a stable census, the feast-or-famine character of the nursing task was inevitable, unless some stabilizing administrative control could be found. Furthermore, the range of normal uncontrolled variation in nursing needs was largely relative to any contributions in labor saving envisioned.

The unhappy experience in early 1958 was explained fully by the research record, which showed a climb in estimated daily nursing hours of direct care from an average of 27 to a peak of 37. We were forced to conclude that, caught within the wide range of demands, no single level of staff or inventory could be ideal.

The support for this conclusion is contained in the following description of detailed study of the patient care process. The research experience not only explains the behavior of ward operation but suggests positive steps for improved organization.

STUDY OF DIRECT PATIENT CARE

In an attempt to identify the elements of patient care and to determine approximate times required for the performance of them, we undertook a work measurement study.** This consisted of observation of nurses performing direct patient care. Further, we desired to establish the level of skills required, the sequencing of the elements of care, and ultimately to develop an effective assignment of personnel. Previous studies, utilizing work sampling techniques, had indicated the extent to which nursing time is divided among gross categories of activity, such as direct care, indirect care, communication, off-ward time, etc. Our concern in this report is for one of these categories—direct patient care.

**Details of this study and subsequent evolution of a patient classification system are covered by other literature.[4]

To achieve the ends, we decided to make detailed observations of the patient care activity, observations definitive in the sense that all the activities composing direct care would be noted and recorded. We continuously observed groups of four patients and recorded the minutes spent in performance of the elements of care against the time of day and the level of personnel engaged. We selected the patients to be observed randomly after stratification according to sex, service (medical, surgical or ophthalmological), and their "condition", a term to be developed later.

By simple totaling of observed performance times for personnel categories and hours of the day, we clearly brought out two facts.

First of these facts was the uneven distribution of the patient care work load over time of day, as shown in Table 1, p. 33. (The period covered is 6 a.m. to midnight. For purposes of this study, the first six hours of the day were not of primary concern.) This table shows the peak load during morning care and the light evening activity.

The second point concerns the distribution of the patient care work load among the personnel levels, as shown in Table 2, p. 33. The dependence of the hospital upon its student nursing and auxiliary groups is quite evident: together they performed 75 per cent of the direct care observed.

Addition of all nursing personnel time devoted to each patient led to a result of interest and significance. It showed, in a quantitative way, the wide range over which the amount of nursing care varied among patients.

NURSING TIME STUDIED

At the start of this study, the patient's condition was described in terms of level of need in several problem areas of nursing care—mobility, state of consciousness, emotional state, adequacy of vision and need for isolation. Upon examination of data recorded for the sample of patients, we noted that there were predominant combinations of levels of the problem areas, and that these combinations were associated with characteristically high or low amounts of nursing

Table 1—Distribution of total direct patient care given between 6 a.m. and midnight

Time periods	Per cent direct patient care
a.m. 6-12	55%
p.m. 12-6	30
6-12	15

Table 2—Distribution of direct patient care* among nursing personnel categories

Personnel	Per cent direct patient care
Registered Nurse	16.0%
Student nurse	29.5
Auxiliary	45.0
Diet aide	1.8
Other	4.0

*Direct patient care between 6 a.m. and midnight.

care. This suggested the possibility of a numerical scale of degree of nursing need, one that would be an expression of the amount of care required in terms of the patient's observable characteristics. To test the feasibility of this, we defined three levels of patient need and applied the definitions in grouping the patient sample.

At one extreme, those who walked, fed themselves and exhibited a relatively great self-sufficiency were designated "self-care". On the other extreme, those who were unconscious or bed ridden and required frequent nursing attention were classed "total care".† In this way, patients in the sample observed were classified into three groups, and the average nursing time per patient was determined for each classification. When tested statistically, these averages were found to be significantly different. The patient categories and average nursing times are:

Category	Minutes
I—Self-Care Patients	27
II—Partial Care Patients	53
III—Total Care Patients	137

This quantitative expression of the well known variation in individual patient needs is striking; a total care patient receives on the average five times the attention of the patient whose self-sufficiency is great.

This quantitative knowledge about variation in patient needs is not only of academic interest but of practical importance also in the effect it has on the total daily work load of the medical and nursing staff. If the number and proportion of each class of patients remained constant, the total work load would vary only slightly.

On the other hand, if the number of each class of patients is also variable, we may expect wide variation in total daily demand on staff. It is, therefore, important to determine how the classes of patients vary within the census, for this, in conjunction with the average times required, would permit the estimation of variation in nursing staff requirements for a single ward or in the whole hospital.

PATIENT CLASSIFICATION SYSTEM

We undertook work to develop a hospital-wide system for classification of patients by degree of need to study the implications and possible utilization of such a system.

The first step was to design a patient condition questionnaire to be completed by head nurses. This questionnaire would provide our research workers with information necessary to categorize the ward's patients. From this we hoped (1) to determine our ability to classify patients from a questionnaire, (2) to learn the composition of the patient population and how this behaves and (3) to simplify and clarify original definitions.

The first questionnaire, very detailed, was designed by our research group with the assistance of head nurses. The initial plan called for head nurses throughout the hospital to answer the questionnaire one day or two days each week. The effort met with some objection by the head nurses, because of the time required to complete the questionnaire. Revisions were made to overcome this objection. A number of questions had become unnecessary as definitions were developed further, and some questions were found to be redundant or not determinant.

The questionnaire was finally reduced to a form (Fig. 1, p. 34) which the head nurse could fill out accurately in five minutes for all the patients of a 29-bed ward. The rules for classification of patients for the questionnaire are given in Figure 2. As a result of this increased simplicity, daily classification was begun in the Osler Medical Clinic in June 1958.

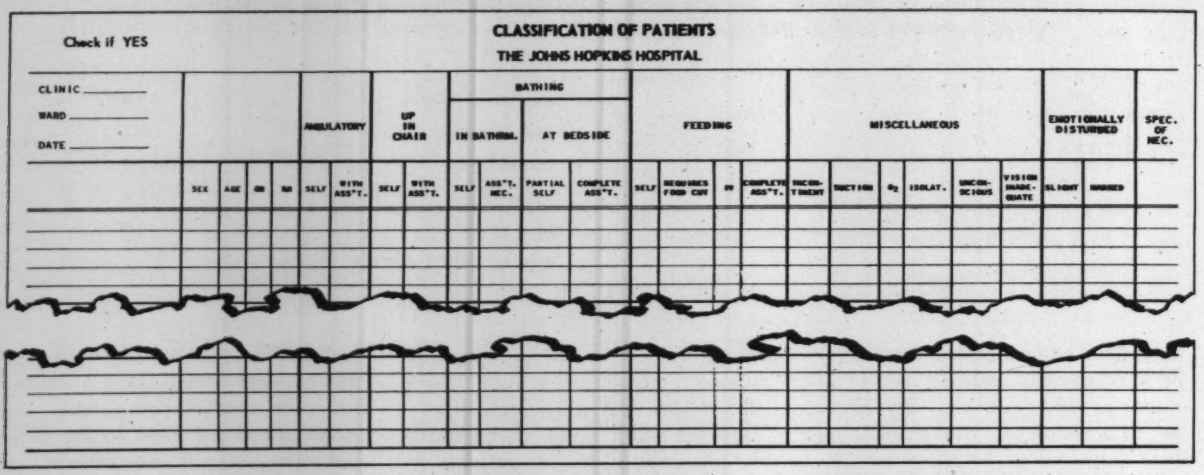
To test the validity of the foregoing system for categorization, we performed another study. This was similar to the first work measurement study, with the important exception that the patients observed were classified prior to, and thus independently of, the observation of service performed for them. The nursing staff was not aware of patient classification. This work verified the original conclusions on the amount of time nursing personnel spent with patients from each class.

RESEARCH USES OF CLASSIFICATION

The first application of the questionnaire was to study the nature of the variation of the number of self-care, partial care and total care patients on the wards of the medical service. It became evident almost immediately, as shown in Figure 3, (p. 35) that each component of the census was highly variable. The high variation is particularly evident in the census of intensive care patients. Also apparent is an independence of the number of these patients from floor to floor on any given day. Figure 4, p. 36, shows the dissimi-

†The term "intensive care" has already been adopted and appears synonymously with "total care" in this paper.

Fig. 1—Patient condition questionnaire to be completed by head nurse



larity, the absence of correlation of highs and lows on four floors of the Osler Building. The significance of this independence for hospital administration will be brought out later after a discussion of the effect of the high variability of the number in each patient group on the nursing work load.

From knowledge of the number of patients in each classification and the average care time associated with each class, we are able to estimate the direct care work load and its behavior. The estimated daily total of hours of direct care is computed by multiplying the number of patients in each class by the average care time for each class and by adding these three products. The resulting estimate of hours of direct care may be considered an index of work load for the ward, and is plotted in Figure 5, p. 37, for the time period covered by the previous illustrations.

Fig. 2—Rules for categorization of patients

Category I. Self-care

Any of the following combinations checked

(a) Ambulatory, or up in chair—Self (without assistance)
Feeding self, or requires food cut
Bathing in bathroom, or at bedside—Partial Self (can bathe self except for back and perhaps extremities)

(b) Ambulatory—with assistance
Up in chair—Self
Bathing in bathroom, or at bedside—Partial Self

(c) As in (a and b) with
Vision inadequate
Oxygen therapy
I.V. feeding
but no two of these factors simultaneously

Category II. Partial or intermediate care

Any of the following combinations checked

(a) Ambulatory—with assistance
Bathing in bathroom, or at bedside—Partial Self
Feeding—Complete Assistance (except I.V. feeding)
Vision inadequate, Oxygen therapy } optional (does not affect classification under these conditions)

(b) Up in chair—Self
Bathing at bedside—Complete Assistance
Feeding Self, or requires food cut or I.V. feeding
Oxygen therapy, Vision inadequate } optional

(c) As in (b) with the following changes
Up in chair—With Assistance
Bath at bedside

(d) Up in chair—With Assistance
Bath at bedside—Partial Self
Feeding—Complete Assistance
Vision inadequate, Oxygen therapy } optional

(e) Bath at bedside
Feeding—Self, or requires food cut, or I.V. feeding
Vision inadequate, Oxygen therapy } optional

(f) Being Specialed of Necessity (patient has continuous nursing assistance to the extent that meal relief must be provided for special duty nurse)

NOTE: Any patient who otherwise falls into Categories I or II, but who is under suction therapy or is in isolation, incontinent (including wound drainage necessitating change of bed linen), or markedly emotionally disturbed (needs almost constant observation, in single room, creates disturbance) will be dropped to the next category.

Category III. Intensive, or "total", care

All combinations not previously mentioned.

In Figure 5, we see the wide range over which the direct care work load varies. The average is 27 hours; the range is from a low of 15 hours to a peak of 35 hours. The dominant influence of the total care patients is demonstrated by comparison of Figures 3 and 5, by which the two are seen to be in phase. The period in which labor-saving or shifting changes were being made on Osler 6 (February and March) was one of generally rising proportion of total, or intensive care, patients. Although we were saving nursing time by minutes, the direct patient care load was increasing by hours. Sometime later, in April and May, which was a period of low direct care load, the wisdom of all the labor-saving contributions was questioned by some administrators, in view of the obvious idleness of auxiliary nursing personnel.

The period over which the data were collected for Figures 3 through 5 must be regarded in retrospect as a period of great enlightenment for our research group. We began the period assuming that there was some characteristic direct care load for each ward and that, having observed and measured the load, the determination of an appropriate staffing pattern would follow simply. The discovery of a daily work load of such gyrating character discouraged the hope that any single staff could be effective in the situation. The result might have been totally discouraging had it not been for the fact that the gyrations themselves contained clues to the nature of the problem and suggested several solutions.

EMERGING PATTERN

Despite the disordered appearance of variation of census of each category of patients, when it is analyzed as a probabilistic phenomenon, a definite pattern emerges. The dominant segment of the population, the intensive care patients, follows closely a Poisson distribution. The rationale for this behavior is described[3] and is of importance here in that it implies an ability to predict the limits within which the intensive care census—and consequently the nursing work load—will vary.

Another characteristic of practi-

Fig. 3—Variation in number of self-care and partial-care patients and percentage of patients in total care situations in a 29-bed ward

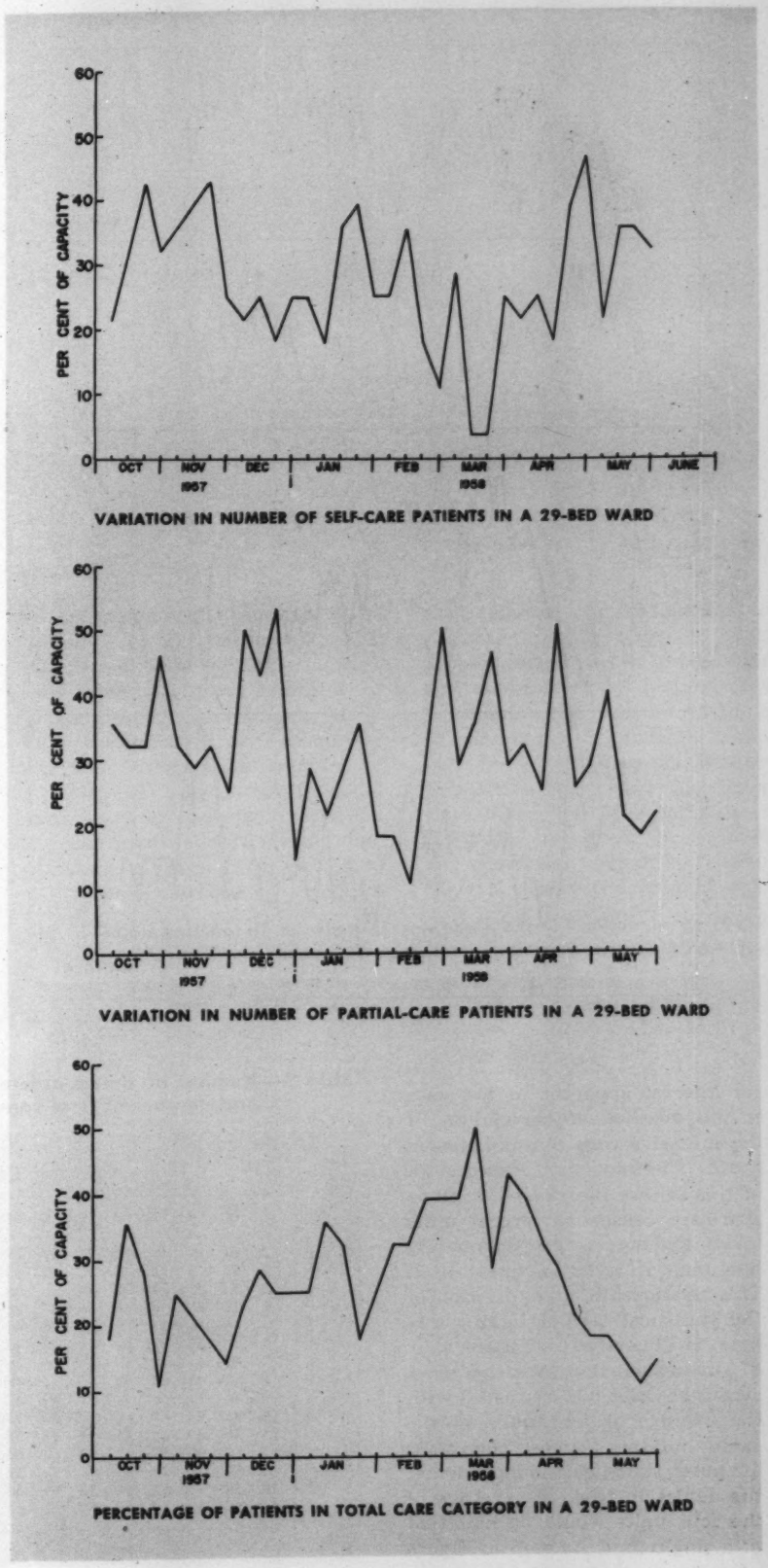
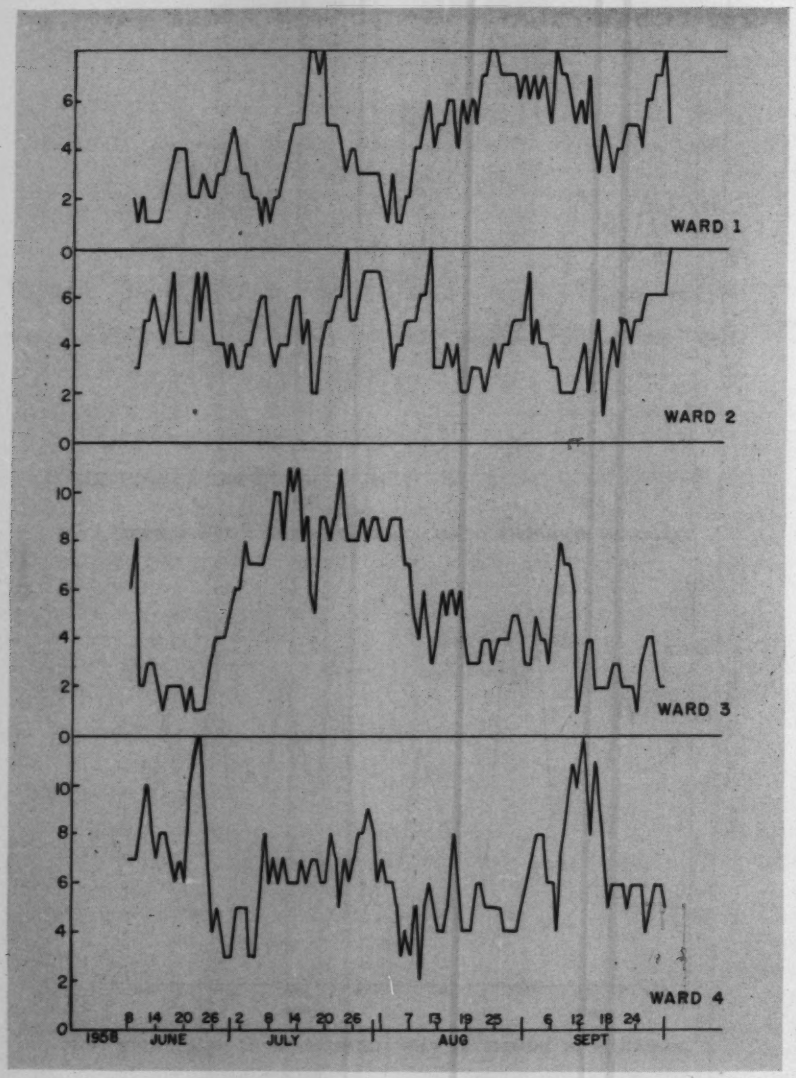


Fig. 4—Number of total care patients in four wards during a four-month period



cal interest apparent in the data is the absence of correlation of the intensive care census between floors. The important consequence of this is that the range of intensive care census of several units taken together is proportionately less than it is for a single unit. This relationship, an expression of the statistical law of large numbers, is illustrated in Figure 6, p. 37 in which the intensive care census of Osler 6 is compared with the average of four units in the same building. Under conditions of pure statistical independence, the deviation from the average of the four units would be half that of a single unit. As seen in Figure 4, this is very nearly so for the case at hand.

A second research use of patient classification was an attempt to relate the use of an important item of supply, hospital linen, to variation in patient condition and census. During and after the observations of direct patient care just described, counts were made of hospital linen used for specific patients. After we standardized practice through a set of ground rules, we found the rate of a number of items to be related to patient condition in much the same manner as was nursing time spent with patients. The individual linen use for the group of total care patients, although highly variable among patients, was approximately three times that for the remainder of the patients in less serious states. Analysis of total daily usage of linen on the unit showed that it was principally a function of census and number of total care patients.

An example of the range of daily needs is shown in Table 3, below, in which the estimated number of sheets for the unit can be determined from any specific census and number of total care patients.

The difficulty in setting some fixed quantity as a daily standard for the unit is illustrated in the wide range of needs experienced in normal fluctuation of census and patient condition. The established standard for Osler 6 had been 60 sheets. It is apparent from Table 3 that this was at times inadequate

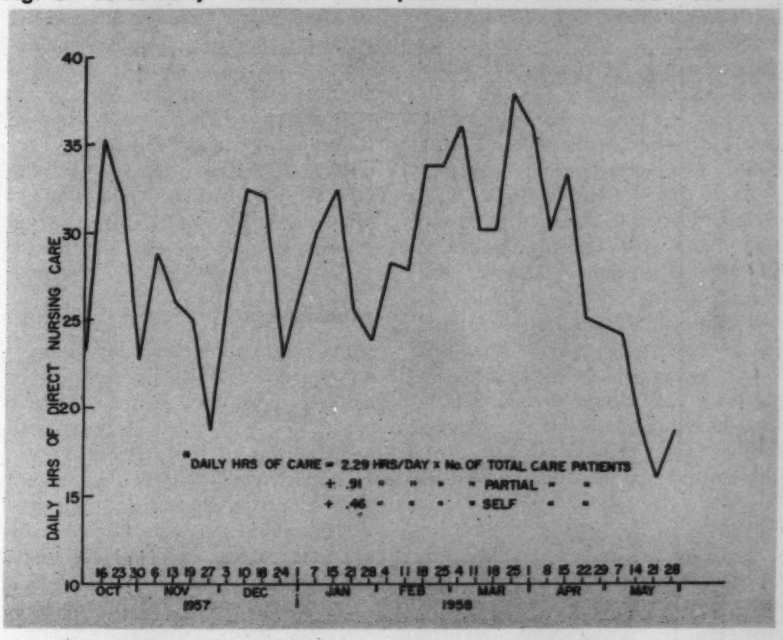
Table 3—Number of sheets ordered for 29-bed ward (based on census and number of total care patients)

Number of total care patients	Census															
	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38
2	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
3	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
4	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
5	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
6	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52
7	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
8	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57
9	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
10	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61
11	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
12	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
13	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67
14	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69
15	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70

and at most other times excessive.

In the summer of 1958, the hospital administration requested a trial of variable standards of linen distribution, based upon daily estimates of need, which was based in turn on the number of intensive care patients and the patient census on each floor. Fortunately, because patient classification for research had become daily routine in the Osler Building, it was possible for the nurse to cooperate in this effort to gain control of the traditionally difficult problem of equitable distribution of linen. The results of the experiment are demonstrated in Figure 7, p. 38 in which daily use of several items is plotted against calendar time. An interesting point is the reduction in unused inventory permitted by variable standards, indicated by the narrowing of the gap between linen supplied and linen used.

Fig. 5—Total daily* hours of direct patient care in a 29-bed ward



APPLICATION TO MANAGEMENT

It should be borne in mind that the variable standards of linen supply are useful only in conjunction with a daily classification of patients according to need. The current experiments have demonstrated the feasibility of the classification system originally developed for research as a daily administrative procedure.

As a guide for medical, nursing and administrative staffs, the classification procedures described on the preceding pages are now being extended beyond the Osler and Halsted Buildings to the remainder of the hospital. Each day the nursing supervisor of each building of the hospital reports the number of patients in each category—intensive, intermediate and self-care—and computes a Direct Care Index, the estimated hours of direct care derived in the manner previously described. The report is summarized on a form (Fig. 8, p. 38).

The potential value of this measure in stabilizing work load has already been shown in experiments. The nursing department has used the index for assignment of over-time hours and its pool of registered nurses.

A continuous effort is being made to develop a formal, practical system of staff assignment that will achieve the objectives of our study—the economically optimal utilization of the time of nursing staff. The Direct Care Index in its present form is a gross indicator of shifting needs for nursing time. It is by definition an estimate of the sum of aggregate minutes of professional and nonprofessional nursing time required, based on current practice as an acceptable standard of care. The next step is the determination of levels of skill required for the elements of patient care, in order to make proper assignment of professional and nonprofessional nursing staff.

Recent work sampling studies of nursing activity indicate a simple, linear relationship between productive work and the Direct Care Index. For each point rise in the index, reflecting the need for one additional hour of direct care, there is nearly one hour of addi-

Fig. 6—Comparison of number of complete care patients in a 29-bed ward with the mean of complete care patients for total clinic

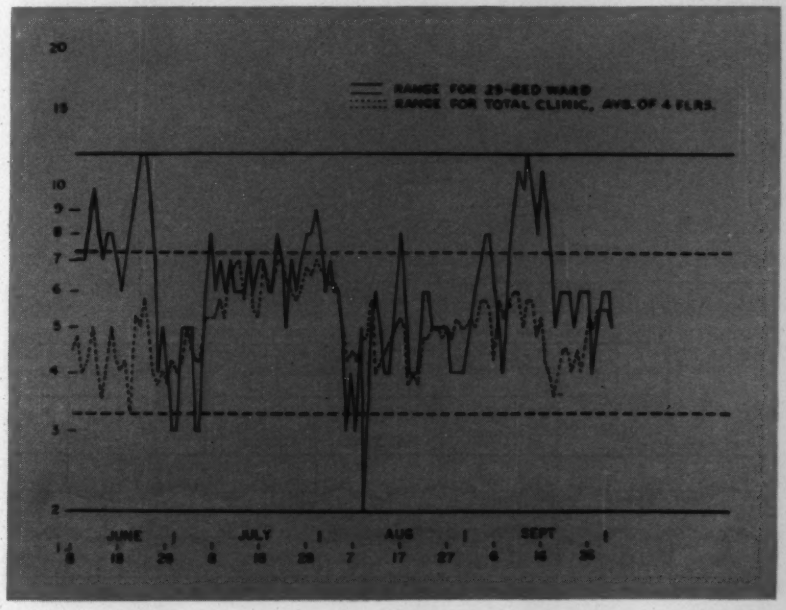


Fig. 7—Daily linen use and inventory for a 29-bed ward

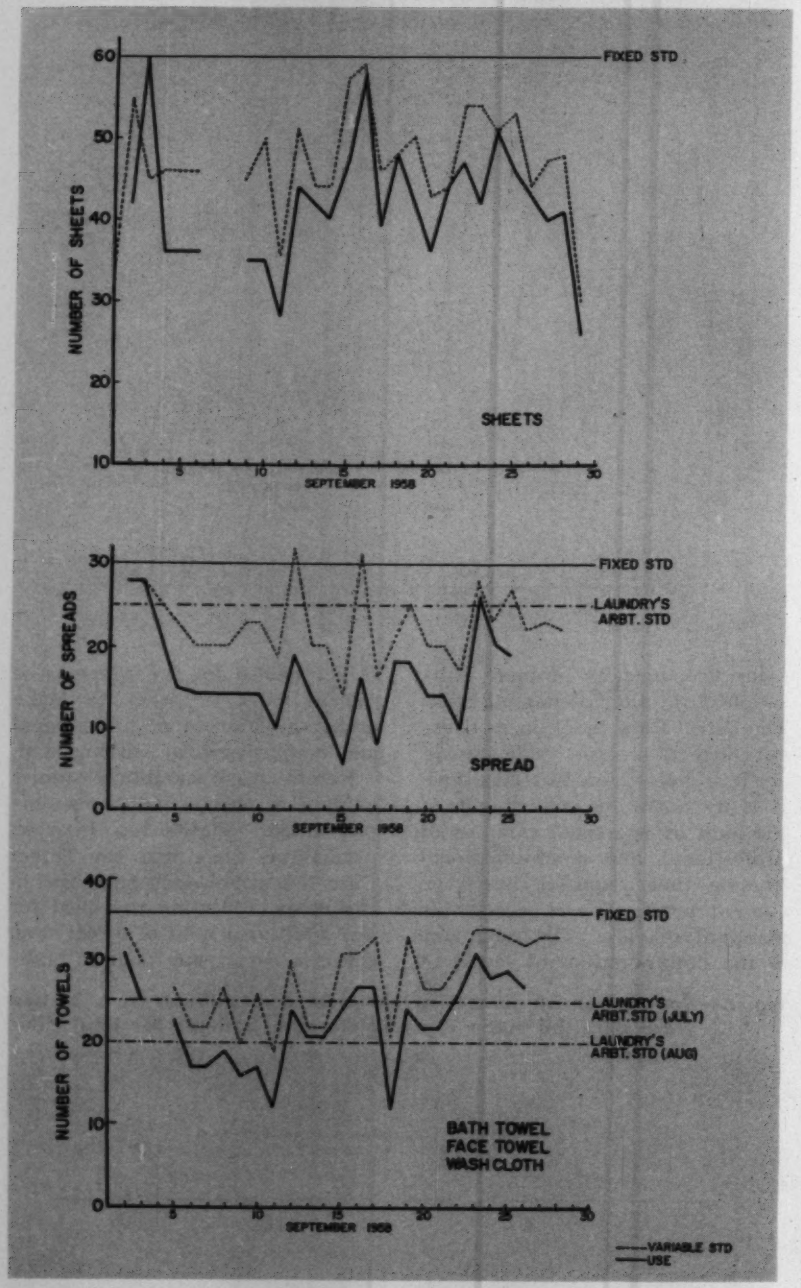
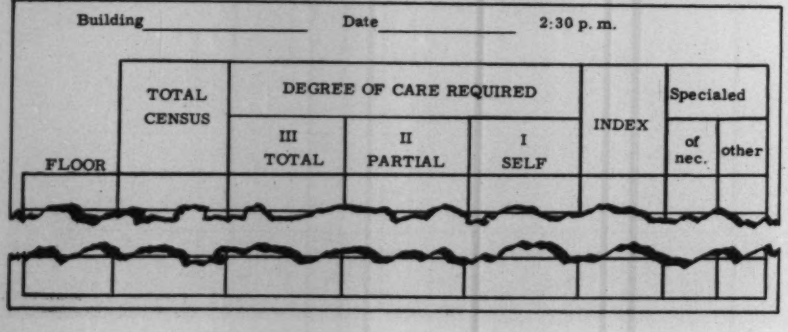


Fig. 8—Report of census and patient condition



tional observed productive work. This is of interest, since it implies that indirect care and administrative work are not greatly affected by the amount of direct care given. In terms of staffing, then, a one-point rise in the index calls for an additional productive time of close to one hour.

The direction suggested by the research is toward a flexible organization in which staff and supplies are allocated according to continuous measures of needs of the units. In such systems, there is a movement of supplies and staff and/or patients to achieve this matching. The same directions have been suggested by administrative intuition. We offer here the quantitative justification and objective methods for implementing recognized concepts.

CONTROLLED VARIABLE STAFFING

At the Johns Hopkins Hospital, the system in which the staff is varied with need has been called "controlled variable staffing". The decision rules for appropriate response to changes in the index are formulated for the medical and surgical buildings. It is clear from our present state of knowledge of the variation of the work load that the requirements for flexibility in the nursing unit can be met by the ability to increase or to reduce nursing staff by one or, on rare occasions, by two persons about the average or normal staff.

DIRECTIONS OF RESEARCH

A major problem to be approached is the establishment of standards of care. We have spoken almost interchangeably of "patient needs" and "care rendered", because we have for the time being accepted the level of performance as it exists as a standard—a measure of patient need.

The justification for this approach is that, if we are able to develop a management system that provides a known and specified range of personnel time, it is a relatively simple matter to revise the range of personnel time to accommodate changed concepts in standards. If this is true, then it is appropriate that, as an adjunct of the present study, the content of patient care should be examined to evaluate the level of skills and

times required in search of improved standards of care.

At present, the Direct Care Index computed in late afternoon of each day is used as a predictor of needs for the next day. Some questions still to be answered are: Is it possible to improve on this method of predicting the next day's needs? Is it feasible to predict needs more than one day in advance? Provided a sufficient degree of accuracy can be attained, prediction for a period of more than one day in advance would provide a greater degree of flexibility in planning the allocation of hospital resources.

In order to answer these questions, statistical data on the time patterns of patient admissions, discharges and length of stay in and transitions between the various categories have been collected. Preliminary analysis of these data yielded sufficient evidence to suggest the development of an analytical model of the dynamics of the inpatient ward population. Such a model, we decided, would be useful in analyzing the factors affecting the variations in the index.

The model would be designed to predict the number of patients in each category at some future time —for example, two days, one week, etc.—based on the number present at a given period in the past. These predictions then would determine, on a probabilistic basis, the index at that future date. The mathematical development of the model and its application are in progress.

CONCLUSIONS

Some conclusions of significance to hospital administration can be drawn from the research studies described:

1. The variation in patient demand on hospital resources is large, but is of such a nature that work loads can be balanced by sharing resources from floor to floor, on the basis of continuous, objective measures of patient need.

2. The technique for classification of patients, developed as a research tool, provides a feasible administrative mechanism for daily estimates of patient needs for nursing time and some supplies.

3. Economic utilization of resources calls for flexibility both in assignment of personnel and allocation of facilities and supplies. This implies a shift away from autonomy of small individual units to a consideration of hospital resources belonging to the whole hospital, to be assigned as shifting needs indicate. At the present state of these studies, it is clear that the necessary flexibility can be achieved by a relatively small fraction—perhaps 20 per cent—of resources being designated as interchangeable among areas.

The development of working systems on the basis of these considerations is now in progress and will be the subject of forthcoming publications. ■

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HOSPITAL TEACHES TEACHERS

"Business-Industry-Education Day," an event sponsored annually by local chambers of commerce all over the country, gives business and professional people of the community an opportunity to explain to local teachers how their businesses or professional activities function.

How hospitals can take advantage of BIE Day to tell their stories to teachers was demonstrated recently in a program arranged by the Toledo (Ohio) Hospital.

The hospital was host to 39 teachers for an afternoon program that portrayed visually the many different skills needed in today's hospital. The administrator, chief of the medical staff and 22 members of the hospital staff representing as many departments or services took part in the program. The chief of the medical staff introduced each staff member and gave a brief description of the functions performed by his department.

A GROUP of Toledo, Ohio, teachers learned of the many skills needed in today's hospital during a recent program conducted by Toledo Hospital. Representatives of various hospital departments and services were introduced following a brief description of their function.

The administrator gave a brief history of the hospital and some of the problems it faces and described the role of the medical staff. The chief of the medical staff commented on the hospital's role as an educational institution.

A luncheon followed the 45-minute program. Visitors were then given a tour of the hospital.

Toledo Hospital plans to make participation in BIE Day an annual event. ■

A WORK SAMPLING STUDY OF VARIATIONS IN NURSING WORK LOAD

The author reports on a work sampling study, conducted to investigate causes for variations in the Direct Care Index defined in the previous article. Among findings he reports is that as nursing hours available increase, there is no increase in direct patient care but instead an increase in personal time.

A RESEARCH program was initiated at Johns Hopkins Hospital in 1956 with the establishment of the hospital's operations research division. A major part of the research program has been devoted to a study on inpatient care. In another article in this issue, beginning on p. 30, research findings are presented and, in particular, the Direct Care Index is described. This index is an accurate measure of the amount of direct patient care (direct nursing care) that is given on a nursing unit by the nursing personnel. The immediate importance of this, to hospitals, is fully discussed in the article. However, one part of the research in relation to this index, a work sampling study although mentioned, is not fully discussed. The study and its implications are presented in this article.

VARIATION IN INDEX

In the presentation of the Direct Care Index, the nature of the variation of the index is shown in Figure 5 on page 37. This variation led to the question: "How does total nursing work load behave as the direct care load varies?" There were many plausible answers. Some said the total work load is constant; others said the total work load varies greatly. The arguments for these, respectively, were:

1. Since there exist "elective" activities which can be performed on days of low care loads and dropped on days of high care loads, the over-all work load is stable.

2. A study[1] had shown that for every three hours of nursing time staffed, one hour of direct nursing care was given; thus, the work load necessarily varies more widely than the direct care load.

In order to determine what was the correct answer to the previously stated question, a work measurement study was proposed. This proposal resulted in a work measurement study that was especially designed to determine the relationship between nursing work load (on ward medical units for the period from 7 a.m. to 6 p.m.) and not only the Direct Care Index but also census and number of hours of nursing personnel (charge nurses, general staff nurses, student nurses, practical nurses and nursing auxiliary) present on these units.

The work measurement technique selected for this study was work sampling. Work sampling was selected for the following reasons:

1. Work sampling would obtain efficiently and economically the information desired.

2. Work sampling had been recommended for this type of study.[2]

3. Work sampling already had been used successfully in studies on nursing units.[1,3,4,5]

WORK LOAD COMPONENTS

Before conducting a work sampling study, the standard procedure is to divide the work load into components so that any activity performed falls into one and only one component defined. The number of components defined and their nature depend upon the purpose of the study.

In this work sampling study, the components used were divided into productive activity and nonproductive activity. Productive activity was then divided into certain types of productive activity which were defined as follows:

1. Direct patient care: Any activity requiring contact with a patient, or any activity which would, if a patient were present, be in contact with him.

2. Indirect patient care: Any activity in preparation for or in completion of direct patient care.

3. Paperwork: Any activity concerned with writing or reading records and other hospital matter.

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by ROBERT J. CONNOR, Dr. Eng.

4. Communications: Any activity of verbal communication in line of duty.
5. Other:
   a. Patient escorting: Any offward activity connected with transporting of patients.
   b. Errands: Any offward activity connected with procurement or delivery of hospital materials.
   c. Cleanup: Any activity having the purpose of cleaning up other than that done as part of direct patient care or indirect care.
   d. Travel: Any activity on the ward in which personnel were moving with an indiscernible purpose.

All other activities were considered nonproductive and were classified as personal time.

The division into productive and nonproductive activity and the secondary division into various types of productive activity allowed not only the behavior of the work load (i.e., the productive activity) but also the behavior of various types of productive activity to be investigated.

RESULTS AND DISCUSSION

Direct Patient Care—Before discussing other results of the study, it is interesting to observe the behavior of time spent in direct patient care. The analysis shows that time spent in direct patient care is strongly related to the Direct Care Index. This is as was expected, for the Direct Care Index is an estimate of time spent in direct patient care.

Further analysis of time in direct patient care indicates that it is not significantly related to the nursing personnel hours available. This implies something that is a bit surprising. The personnel do not give more or less care to each patient because there are many or few hours available; rather, they give to each patient an amount of care—"a standard of care"—which they feel is correct. This is implied by the fact that time with patients did not increase or decrease as hours available did, but it only varied with the index.

Productive Activity—Analysis of time spent in productive activity is most interesting. It shows that *total work load does vary significantly with the Direct Care Index and with hours available, but not with census.* It is pointed out that these *results hold over the usual fluctuations* of these factors.

In the analysis, the first point that becomes clear is that total time spent in productive activity is strongly related to the Direct Care Index. As a matter of fact, the relationship appears to be one in which for every hour variation in direct care there is approximately one hour variation in total work load. Thus, it is clear that total work load is not constant, but varies with the direct care load.

The second point the analysis discloses is that hours available has a significant relationship to the total nursing work load. This relationship is not as strong as that between work load and index. However, there is a strong relationship between the work load and these two variables. In fact, this relationship is the strongest found in the analysis. Thus, it can be concluded that the over-all work load is strongly related to hours available and the Direct Care Index. The relationship is such that for every hour variation in the Direct Care Index (the direct care), there is, as noted before, around an hour variation in work load. Furthermore, for every hour variation in hours available, there is a variation in work load of approximately .3 hours.

The relationship of hours available and total work load can be explained as follows: Time in communications (i.e., reports, lineups, team conferences), in paperwork (i.e., checking off medications, reading team assignments), in indirect patient care (i.e., preparing medications and treatments, preparing for baths, preparing to make beds) necessarily will increase as more personnel are present. Therefore, when additional personnel are assigned, some percentage of their time must go into these activities. From the analysis, it is estimated that this percentage is approximately 30 per cent.

One last point the analysis shows is that once the other factors are taken into account, the influence of census on work load is negligible. In fact, there is in any case little evidence of a significant relationship between work load and census. Thus, another conclusion that might be considered surprising is made: *Census as it varies over its usual range does not give a good indication of the variation of a floor's work load.*

Personal Time—Analysis of time in nonproductive activity indicates that it is a function of the direct patient care load and hours available. It appears that nursing personnel perform their duties, including the "standard care," and then engage in nonproductive activity. The relationship found is such that time spent in productive activity is, as would be expected, simply the difference between hours available and time in productive activity.

This relationship and the result of the analysis of direct patient care lead to an interesting conclusion. *As hours available increase, there is no increase in direct patient care; the only real increase is in personal time.* This indicates that the introduction of labor-saving devices is of little value to a hospital, unless, as a result, the number of personnel is reduced. The reason for this is that the time saved will not be directed toward gainful activities, but rather to increased idle time.

(Continued on page 111)

by EUGENE LEVINE, Ph.D., STANLEY SIEGEL and JOSEPH DE LA PUENTE

DIVERSITY OF NURSE STAFFING AMONG GENERAL HOSPITALS

Great diversity exists among general hospitals in their nurse-patient ratios, the authors state. Analysis of nurse staffing ratios in general hospitals brought to light some interesting conclusions concerning this diversity, including the fact that the greatest variability exists in the smallest and largest hospitals.

AN IMPORTANT question frequently raised by hospital administrators is: How many nurses are needed to adequately staff a hospital? Expressed another way: What standards can be used to assure sufficient yet economical nurse staffing?[1]

Existing staffing standards are generally stated as ratios of numbers of nurses required in relation to numbers of patients to be served. Often, different ratios are shown for the various types of patients, e.g., medical, surgical, obstetric and pediatric. Sometimes these ratios are expressed in terms of hours of nursing care needed, such as the average number of bedside nursing hours needed per surgical patient during each 24 hours is 3.5.[2] Thus, it can be said that most staffing standards have this in common: They base staffing requirements primarily on patient census without consideration of other factors that could influence these requirements.

The main purpose of this article is to present data on the actual ratios of nurses to patients in short-term general and allied special hospitals in the United States. The data will show the great diversity that exists among these hospitals in nurse staffing ratios. When the hospitals are grouped according to size, control and geographic location, considerable diversity of staffing ratios is still found among hospitals in the same group, although there is less diversity than when the hospitals are not grouped according to these factors. This finding lends support to the belief that other factors in addition to these may influence the nurse staffing of a hospital. These other factors could include: the organization and management of the hospital, its physical layout, the kinds of patients it serves and the training, skills and productivity of its personnel.[3] Moreover, it is well recognized that availability of financial resources and labor supply can also influence the number of nurses actually employed. Therefore, without additional knowledge of the effects of these factors on nurse staffing, it is difficult to write meaningfully about staffing standards.

ANALYZING NURSE STAFFING

The importance of analyzing hospital nurse staffing is evident from the fact that hospitals employ

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the largest proportion of nursing personnel. The great size of the hospital nursing field is seen from the following statistics: Of the 504,000 professional nurses actively engaged in nursing as of Jan. 1 of last year, 325,000 were employed by hospitals.* In addition, hospitals employed around 500,000 practical nurses and other auxiliary nursing personnel. In 1930, 26 per cent of all professional nurses worked in hospitals.[4] By 1950, this percentage rose to 44 per cent, and in 1960 it reached 64 per cent. In 1932 there was, on the average, one professional nurse for every seven patients in general hospitals.[5] Today, there is one professional nurse for every two patients.

The source of the data shown in this report is the 12th annual hospital survey conducted by the American Hospital Association in 1957.[6] From the data collected in this survey, six ratios were computed for each of the 5399 short-term general and allied special hospitals for which usable data were available. The 5399 hospitals include short-term, federal and nonfederal hospitals in the following service categories: general, maternity, eye, ear, nose and throat, children's and orthopedic hospitals. These hospitals represent 97 per cent of the 5541 short-term general and allied special hospitals in Continental United States listed in Part 2 of the Aug. 1, 1958, Guide Issue of **HOSPITALS**, J.A.H.A.[7]

*Estimate jointly prepared by American Nurses' Association, National League for Nursing and U.S. Public Health Service, Jan. 20, 1961.

SIX RATIOS

The six ratios, explained in Table 1, below, can be divided into two major groups: bedside nursing ratios and supervisory ratios. Ratios 1 through 4 show the relationship between the number of bedside nursing personnel and the number of patients. These ratios include those personnel who provide direct nursing care in the patient care units of the hospital. They exclude nurses in central supply and operating rooms as well as those in administrative and supervisory positions. These ratios attempt to answer the question: How much total bedside nursing care is available to patients and how much care from different categories of personnel? Ratio 5 in Table 1 shows the proportion of professional nurses to total bedside personnel. It answers the question: What share of bedside nursing care is provided by professional nurses? Ratio 6 shows the relationship between the number of administrative and supervisory personnel and total bedside nursing personnel. This ratio seeks to answer the question: How much supervision is available to personnel? It should be noted that all ratios are expressed in terms of a per 100 base. Ratios 1 through 4 are in terms of per 100 average daily patient census; ratios 5 and 6 are in terms of per 100 total bedside nursing personnel.

GROUPING HOSPITALS

To obtain a meaningful basis for comparing staffing, hospitals were grouped according to average daily patient census, control (ownership), state and region of location and population of city in which

Table 1—Description of the six ratios used to describe staffing patterns in hospitals

Ratio Number	Title of ratio	How the ratio is computed for each hospital (Numerator is divided by denominator and result multiplied by 100)	
		Numerator	Denominator
1	Total bedside nursing personnel per average daily census per 100 patients	The sum of the number of patient care unit personnel, including: staff nurses practical nurses nursing aides and attendants orderlies other auxiliary nursing personnel	Average daily census
2	Staff nurses per 100 average daily census	Number of patient care unit staff nurses	As in ratio 1
3	Practical nurses per 100 average daily census	Number of practical nurses	As in ratio 1
4	Auxiliary nursing personnel per 100 average daily census	The sum of the number of: nursing aides and attendants orderlies other auxiliary nursing personnel	As in ratio 1
5	Staff nurses per 100 total bedside nursing personnel	Number of patient care unit staff nurses	The sum of the number of: patient care unit staff nurses practical nurses nursing aides and attendants orderlies other auxiliary nursing personnel
6	Supervisors per 100 total bedside nursing personnel	The sum of the number of: administrative personnel patient care unit supervisors and assistants patient care unit head nurses and assistants	As in ratio 5

Note: All part-time nursing personnel are adjusted on the basis of: two part-time personnel = one full-time personnel.

Table 2—Average nurse-staffing ratios and their indexes of diversity in 5399 short-term general and allied special hospitals in the United States, by average daily census of hospital, fall, 1957

Average daily census	Number of hospitals	Ratio*						Index of diversity					
		1	2	3	4	5	6	1	2	3	4	5	6
All hospitals	5,399	89.1	24.9	21.9	42.3	27.4	19.9	42	92	124	62	74	146
Less than 25	1,747	100.5	23.4	34.2	42.9	21.7	20.7	49	135	110	79	107	202
25— 49	1,188	86.8	22.8	20.9	43.0	25.5	22.2	33	85	97	60	82	118
50— 99	925	86.6	26.9	17.5	42.2	30.4	20.3	33	69	101	53	60	71
100—199	839	84.5	29.2	12.9	42.3	34.4	17.6	31	52	109	44	44	74
200—299	354	78.7	26.9	9.9	41.9	34.6	16.6	31	43	108	42	38	101
300—399	145	77.8	26.8	9.8	41.2	34.3	13.2	33	47	103	35	33	42
400—499	80	63.2	19.7	6.7	36.8	31.5	15.4	36	44	118	35	33	126
500—999	94	62.6	17.4	10.2	34.9	29.4	15.2	37	54	110	43	50	88
1,000 and above	27	47.9	10.3	5.4	32.3	19.5	29.7	48	77	91	51	56	267

*See Table 1 for description of the six ratios.

they were situated. For each of the six ratios, an average ratio for hospitals in the same group was computed by adding the ratio for each hospital in the group and dividing by the number of hospitals. These average ratios are known as unweighted arithmetic means.[8] They are unweighted, because the ratio of each hospital is counted equally in the computation of the average ratio for the group without regard for the actual number of patients and personnel in each hospital.

The choice of unweighted rather than weighted average ratios was made by the authors after an evaluation of the conceptual strengths and weaknesses of the two alternatives. For some of the groupings of hospitals shown in this article, weighted average ratios can be directly computed from the statistical data contained in the tables on nursing personnel in the Guide Issue of HOSPITALS, J.A.H.A. For example, if the total number of staff nurses in short-term general and allied special hospitals in Table 10 of the 1958 Guide Issue were divided by the total average daily patient census in these hospitals and the result multiplied by 100, a weighted average of staff nurses per 100 daily average patient census would be obtained. The unweighted average ratios shown in this article cannot be obtained directly from the data in the Guide Issue. Nurse staffing ratios for each hospital are necessary to compute these ratios.

The values obtained by the two types of ratios differ somewhat. For example, weighted averages of nurse-patient ratios for groupings of hospitals that combine smaller and larger hospitals are generally smaller than unweighted average ratios for such groups. In Table 2 of this article (see above), the unweighted average ratios for all of the 5399 short-time general and allied special hospitals are shown on the line "all hospitals". The corresponding weighted average ratios for the 5399 hospitals are:

1—76.3
2—23.8
3—12.5
4—40.0
5—31.2
6—15.4

It should be noted that these values of the weighted average ratios cannot be exactly reproduced from the tables in the 1958 Guide Issue.[9] The tables do not categorize the hospitals in sufficient detail to reconstitute the identical group of 5399 hospitals used in this study.

VARIATION OF RATIOS

In addition to the average ratios, measures of the variation of the ratios among the hospitals included in each group will also be presented. In this report, the measure—commonly known as the coefficient of variation—is called the "index of diversity". The index is computed by dividing the value of the standard deviation of a ratio for a group of hospitals by the value of the average ratio. The standard deviation is, of course, a measure of the extent to which the ratios of each of the hospitals in a group differ from the average ratio for the group. The advantage of using the index of diversity rather than the standard deviation is that by converting absolute variation to relative variation, it facilitates the comparison of variation among different groups of hospitals which have different average ratios. This conversion adjusts the standard deviation for the bias that would otherwise be present, because hospitals with larger sized nursing staffs have a greater range in which to vary.

The index of diversity, which is expressed as a percentage, is interpreted in the following way: If the ratio for each hospital in a group were the same, the average ratio would be identical to each hospital's ratio. In this case, the value of the standard deviation would be zero, and so would the index of diversity. If there is any difference among each hospital's ratio, the standard deviation and index of diversity would have a value greater than zero. Therefore, the higher the index of diversity, the less is the uniformity in staffing ratios among the hospitals in a group. A value as high as 100 per cent indicates great lack of uni-

formity in staffing ratios.

The average ratios and diversity indexes for the six nurse staffing ratios have been classified by levels of average daily census, by control, by geographic location and by population of area of location of the 5399 hospitals included in the study. All computations were processed on the electronic computer of the National League for Nursing under the supervision of Dr. Nathan Jaspen, Ph.D., who, at the time of this study, was director of the league's statistics and automation services. The data shown in this report represent only a small portion of the total available, but point out some highlights of the findings.

In the 5399 general and allied special hospitals, there was an average of 89.1 total bedside nursing personnel for each 100 patients in the fall of 1957 (see Table 1). The major share of bedside nursing care was provided by nonprofessional nursing personnel as seen in the following percentage distribution of bedside nursing personnel according to job category:

Professional staff nurses	27.9
Practical nurses	24.6
Nurses' aides and orderlies	47.5
Total	100.0

Ratios of *total* bedside nursing personnel to patients (ratio 1) are more similar from hospital to hospital than are the ratios of specific categories of personnel to patients. In other words, there is more uniformity among hospitals in the total size of nursing staff employed than in the specific composition of this staff.

PRACTICAL NURSE RATIO

Among the various categories of bedside nursing personnel, the ratio of practical nurses to patients is the most diverse, with an index of diversity of 124 per cent; it appears that hospitals maintain very dissimilar ratios of practical nurses to patients.

The ratio of aides and orderlies to patients is the least diverse of all ratios. Hospitals may be more alike in their employment of this category of personnel, because the supply of aides and orderlies may be less scarce than other categories. Also, more common agreement among hospitals about how these personnel should be utilized would tend to make these ratios less variable from hospital to hospital.

Although the average of the ratios of nurses in administrative and supervisory positions to bedside personnel is 19.9 per 100 in all hospitals, this ratio is extremely variable among the hospitals. This diversity may be in part a reflection of differences in organizational structures of nursing departments in general hospitals. It may also be caused by differences in definition of position titles.

HOSPITAL SIZE

There is an inverse relationship between the size of a hospital and its total nurse-patient ratio. As the size of the hospital increases, the ratio of nursing personnel to patients decreases (see Table 2, p. 44). In the 1747 hospitals with an average of fewer than 25 patients per day, this ratio is 100.5. At the other extreme, in the 27 hospitals with an average census of 1000 patients or more, the ratio is only 47.9.

For specific categories of personnel—except for practical nurses—the drop in the size of the nurse-patient ratio as the size of the hospital increases is not so apparent. The professional staff nurse and the nursing aide ratios hardly vary at all among the size groups under 300 average daily census. Above 300 average daily census, the ratios decrease as size of hospital increases.

Why does the larger hospital employ fewer nursing personnel per patient? A variety of reasons provide possible explanations—more flexibility in staffing permissible because there is a larger pool of personnel to draw from, larger proportion of ward patients, greater use of nursing students and volunteers to augment paid staff, or more efficient utilization of personnel. These possible explanations would, of course, have to be corroborated by further study.

STAFFING RATIO

An interesting relationship can be seen in Table 2 between the ratio of the number of professional staff nurses to total bedside nursing personnel (ratio 5) and the ratio of the number of administrative and supervisory personnel to total bedside nursing personnel (ratio 6). As the ratio of professional staff nurses increases, the administrative and supervisory ratio decreases. For example, the size group 300-399, which has the lowest supervisory ratio (13.2), has almost the highest professional staff nurse ratio (34.3). On the other hand, the size group 1000 or more has the highest supervisory ratio (29.7) and the lowest professional staff nurse ratio (19.5). These figures may be an indication of the fact that more supervision may be required when a larger proportion of the bedside nursing staff consists of nonprofessional nursing personnel. Conversely, less supervision may be required when a larger proportion of the bedside nursing staff consists of professional staff nurses. Another possibility has been already mentioned: some hospitals may classify certain staff nurses as administrative personnel, and vice versa.

The index of diversity for the various ratios shows an interesting relationship to the size of the hospital. The greatest diversity of staffing ratios is generally found among the smallest and the largest hospitals. The least diversity of staffing ratios is generally found among hospitals that have an average daily patient census of between 100 and 500 patients. These data suggest that the factors which could influence nurse staffing in a hospital—physical facilities, organizational structure and availability of money and personnel—may be more variable among hospitals in the smallest and largest size groups than they are in the middle-sized hospitals.

HOSPITAL CONTROL

According to Table 3 (p. 46) the highest ratio of total bedside nursing personnel to patients is found in the proprietary hospitals; the lowest ratio is found in the federal hospitals. Voluntary hospitals have the lowest total bedside nursing ratio of the three groups of nonfederal hospitals. However, one fact needs to be emphasized to properly interpret these figures. The voluntary hospital—to a greater extent than the other groups of hospitals—augments its paid nursing staff by using nursing students

Table 3—Average nurse-staffing ratios and their indexes of diversity (by control)

Control	Number of hospitals	Ratio						Index of diversity					
		1	2	3	4	5	6	1	2	3	4	5	6
All hospitals	5,399	89.1	24.9	21.9	42.3	27.4	19.9	42	92	124	62	74	146
Voluntary	3,135	87.4	27.6	17.3	42.6	30.8	20.7	38	82	118	54	63	131
Proprietary	867	95.2	18.6	44.1	32.4	18.6	18.9	46	139	91	90	122	183
Government, nonfederal	1,062	95.0	22.3	22.5	50.2	22.8	17.9	28	89	103	55	82	125
Federal	335	70.5	24.1	5.4	41.0	33.9	20.9	74	97	224	82	50	215

Table 4—Average nurse-staffing ratios and their indexes of diversity in 5064* short-term general and allied special hospitals in the United States, by population of area where they are situated

Population	Number of hospitals	Ratio						Index of diversity					
		1	2	3	4	5	6	1	2	3	4	5	6
All hospitals	5,064	90.3	24.9	23.0	42.4	27.0	19.8	39	61	120	61	75	140
Less than 2,500	871	95.0	21.9	28.7	44.4	21.8	17.3	45	117	130	69	100	158
2,500— 24,999	2,398	91.9	23.8	25.0	43.2	25.4	20.6	36	90	109	62	81	145
25,000—249,999	1,033	86.6	28.5	16.1	41.9	32.5	19.3	33	63	108	52	54	105
250,000—999,999	453	86.6	29.0	19.3	38.3	31.8	21.0	31	117	123	53	57	170
1,000,000 and above	288	82.3	23.4	20.8	38.1	28.4	20.4	39	74	115	50	62	78
Unclassified	21	91.5	34.3	7.5	49.6	30.3	18.3	61	88	191	57	62	143

*Excludes federal hospitals.

Table 5—Average nurse-staffing ratios and their indexes of diversity in 5064* short-term general and allied special hospitals in the United States, by geographic region

Region**	Number of hospitals	Ratio						Index of diversity					
		1	2	3	4	5	6	1	2	3	4	5	6
All hospitals	5,064	90.3	24.9	23.0	42.4	27.0	19.8	39	61	120	61	75	140
Northeast	944	81.9	33.7	15.1	33.1	40.6	22.4	33	60	107	55	49	99
North Central	1,537	89.2	25.5	15.7	47.9	27.4	19.6	40	96	139	50	64	143
South	1,815	92.4	16.8	33.3	42.3	17.9	17.8	40	114	99	66	101	151
West	768	98.3	32.3	23.0	43.0	31.2	21.9	38	76	113	66	66	154

*Excludes federal hospitals.

**Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.
North Central: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin.
South: Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina Tennessee, Texas, Virginia, West Virginia.
West: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

and volunteers. If an allowance were made for the services of persons in these categories, the staffing ratios in the voluntary hospital would be considerably higher than those shown in Table 3.

The highest ratio of professional staff nurses to 100 daily average patient census (ratio 2) is found in the voluntary hospital, but the federal hospital has the highest proportion of professional staff nurses per 100 total bedside nursing personnel (ratio 5). Proprietary hospitals have the highest practical nurse ratio, and the nonfederal government hospitals have the highest ratio of nursing aides to patients.

Interestingly, federal hospitals show the greatest diversity of total staffing. One would think that federal hospitals would have similar staffing ratios since, as a part of a larger hospital system, they are likely to have uniform operating policies and procedures. However, there is actually not one federal hospital system, but five, including: Veterans Administration, Public Health Service, Indian Service, other Public Health Service Hospitals and Department of Defense, including Army, Navy and Air Force.

Moreover, there are great dif-

ferences in the characteristics of individual federal hospitals. The Army, for example, which maintains a large medical center such as Walter Reed with an average daily census of more than 1000, also operates very small hospitals, such as the one in Mineral Wells, Tex., with an average census of less than 25.

From a comparison of Tables 2 and 3, it can be seen that the size of the nurse-patient ratio appears to be more closely related to size of hospital than to the factor of control of hospital. That is to say, hospitals in the same control group but in different size groups are more likely to have different nurse-patient ratios than are hospitals in the same size group but in different control groups. Thus, the factor of size of hospital seems to have more influence on a hospital's nurse-patient ratio than does the factor of the hospital's control.

AREA POPULATION

In Table 4, p. 46, the hospitals are grouped according to population of the area where they are situated. In this table, and the two that follow, federal hospitals have been excluded. The data indicate that as the population of the area in which the hospital is situated increases, the total nurse-patient ratio decreases. These data reflect the fact that there is a larger proportion of smaller hospitals in less highly populated areas. Consequently, the higher nurse-patient ratios of the smaller hospitals might result in higher staffing ratios in these areas.

In Table 5, p. 46, the hospitals are grouped into four geographic regions. The Northeast region has the lowest total bedside nursing personnel ratio, and the West the highest ratio. However, the Northeast has the highest ratios of professional staff nurses to patients and of administrative and supervisory personnel to bedside personnel. Moreover, the diversity of staffing ratios tends to be lower in this region than in other regions.

The Southern region has the lowest ratio of professional staff nurses to patients. In addition, this ratio is more diverse among hospitals in the South than the other regions. In contrast, the ratio of practical nurses to patients is highest in the South, and the diversity of this ratio is lowest of all four regions.

The ratios for the then 48 states and the District of Columbia are shown in rank order in Table 6, below. Utah has the highest total bedside nursing personnel ratio (110.7) and Pennsylvania has the lowest (73.1). The highest professional staff nurse ratio (46.6) is found in Connecticut. Oklahoma's staff nurse ratio of 9.5 is the lowest of all the states. Texas has the highest practical nurse ratio (54.4) and Delaware with 5.4 has the lowest. Finally, the nursing aide ratio of 60.0 in Kansas leads all the states, whereas New Hampshire's ratio of 27.6 is the lowest.

Table 6—Average ratios by state and personnel of bedside nursing personnel per 100 average daily census (excludes federal hospitals)

(in rank order of number of total bedside nursing personnel per 100 patients)

Rank order	State	Number of hospitals	Bedside nursing personnel per 100 average daily census			
			All personnel	Professional staff nurses	Practical nurses	Nursing aides and other auxiliary personnel
1	Utah	30	110.7	26.3	29.0	55.4
2	Wyoming	25	107.2	32.2	27.4	47.7
3	Oregon	58	106.5	31.3	17.5	57.6
4	Idaho	43	102.3	30.7	42.8	28.8
5	Georgia	116	100.7	16.4	33.1	51.2
6	Alabama	104	100.3	17.9	24.6	57.7
7	Texas	448	100.1	13.4	54.4	32.2
8	California	299	99.3	35.3	19.8	44.2
9	New Mexico	33	98.8	23.0	18.0	57.7
10	Indiana	100	98.7	31.5	9.1	58.1
11	Florida	127	98.4	26.6	21.4	50.5
12	Washington	102	98.1	35.2	28.9	33.9
13	Ohio	177	97.9	32.6	15.8	49.4
14	Nebraska	96	95.3	21.9	20.7	52.6
15	Arkansas	72	95.1	11.0	28.9	55.2
16	Louisiana	106	94.2	15.1	37.1	42.0
17	Kansas	124	91.7	23.0	8.6	60.0
18	Oklahoma	97	91.6	9.5	36.7	45.4
19	Michigan	180	91.3	25.5	19.0	46.8
20	Connecticut	40	91.2	46.6	11.1	33.6
21	Arizona	41	91.2	33.3	18.2	39.6
22	Tennessee	114	90.6	11.5	34.8	44.3
23	Colorado	74	90.6	26.6	25.0	39.0
24	Kentucky	103	89.7	15.9	26.3	47.5

(Continued on next page)

SUMMARY

From the data presented in this article, it is apparent that there is great dissimilarity among general hospitals in their nurse-patient ratios. Variation exists along at least two dimensions. First, when hospitals are grouped according to certain characteristics such as size and geographic location, large differences can be seen among the

average ratios for the various groups. For example, hospitals with an average daily census of less than 25 patients have an average ratio of total bedside nursing personnel to patients more than twice as large as hospitals with a census of 1000 patients or more. Second, within each of the groups, there is much diversity between the average ratio and the ratios of the individual hospitals included in the group. This variation is demonstrated by the high values of the indexes of diversity for group ratios. An important question to be answered by extensive research in this area is: "Why does this diversity exist?"

The main findings of the analysis of nurse staffing ratios in general and allied special hospitals can be summarized as follows:

1. Nursing aides and orderlies comprise nearly half of the total bedside nursing personnel in the short-term general and allied special hospitals. Professional staff nurses comprise less than 30 per cent of the total bedside nursing personnel.

2. The ratio which shows the greatest diversity among the specific categories of bedside nursing personnel is the practical nurse ratio; the least diversity is found in the nursing aide ratio. The ratio of total bedside nursing personnel to patients shows less diversity than the ratios for specific categories of personnel. This suggests that there is more uniformity among the hospitals as to the total size of the nursing staff, but less uniformity as to the specific composition of this staff.

3. As the size of the hospital increases, the staffing ratios decrease. Generally, greatest variability in staffing ratios is found in the smallest and largest hospitals.

4. As the percentage of the bedside nursing staff who are professional nurses increases, the ratio of administrative and supervisory personnel to patients decreases.

5. The highest ratio of total bedside nursing personnel to patients is found in proprietary hospitals; the lowest ratio exists in federal hospitals.

6. As the population of the area in which a hospital is situated increases, the ratio of total bedside nursing personnel to patients decreases.

7. The highest total bedside nursing ratio is in the West; the lowest is in the Northeast. However, the Northeast has the highest ratio of professional staff nurses to patients.

8. There is great variability among the states in their nurse-patient ratios. Utah has the highest bedside nursing ratio (110.7 total nursing personnel per 100 patients) and Pennsylvania has the lowest (73.1). ■

TABLE 6—Continued

Rank order	State	Number of hospitals	Bedside nursing personnel per 100 average daily census			
			All personnel	Professional staff nurses	Practical nurses	Nursing aides and other auxiliary personnel
25	New Hampshire	30	89.2	41.9	19.7	27.6
26	Rhode Island	14	88.9	38.4	19.1	31.4
27	Minnesota	163	88.6	26.5	19.4	42.7
28	Montana	50	88.6	28.2	19.4	41.0
29	Missouri	113	88.4	13.8	34.5	40.1
30	Vermont	24	87.2	44.4	15.0	27.8
31	Iowa	103	86.6	29.9	8.1	48.6
32	Mississippi	91	85.6	16.2	34.5	35.0
33	Massachusetts	132	85.0	37.7	12.6	34.7
34	New York	331	84.7	29.1	19.5	36.0
35	Wisconsin	141	84.4	23.8	15.7	44.9
36	Illinois	236	83.1	26.7	12.0	44.4
37	Maryland	41	82.7	23.2	14.0	45.5
38	District of Columbia	15	82.4	29.4	12.9	40.1
39	New Jersey	90	81.7	35.7	13.7	32.3
40	North Carolina	147	81.6	23.8	19.6	38.2
41	Nevada	13	81.3	30.5	16.9	33.9
42	Virginia	92	80.9	21.8	20.0	39.1
43	Maine	44	80.2	30.6	16.3	33.3
44	South Carolina	61	79.1	18.1	17.0	44.0
45	South Dakota	50	78.0	21.1	11.8	45.0
46	Delaware	10	77.6	28.4	5.4	43.9
47	North Dakota	54	77.2	20.4	7.8	49.4
48	West Virginia	71	77.1	17.6	12.8	46.8
49	Pennsylvania	239	73.1	33.2	10.4	29.5

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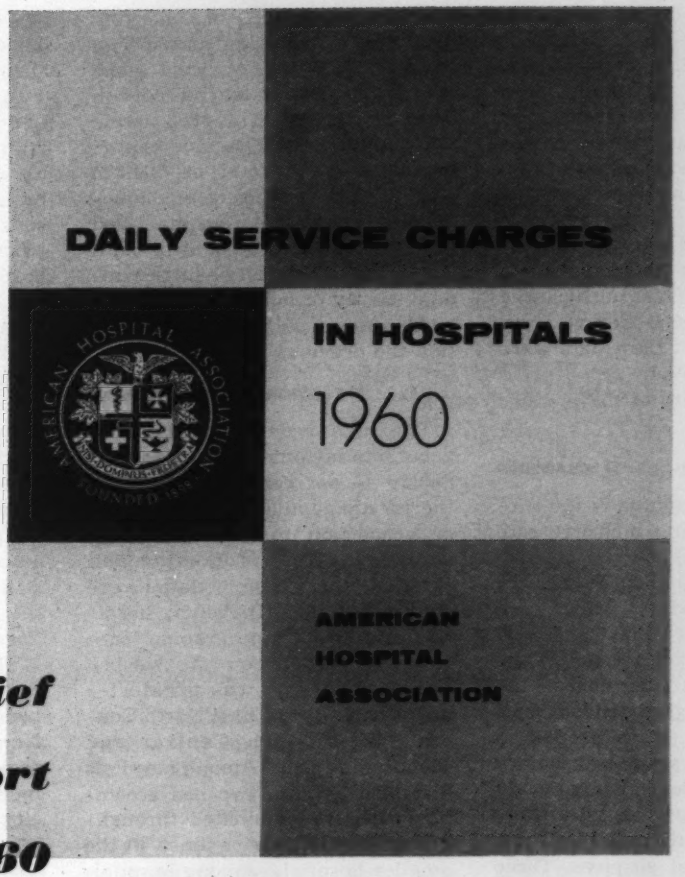


A brief report on the 1960 AHA survey

This article presents some of the highlights of a survey of daily service charges in 4692 hospitals in the United States completed in 1960 by the American Hospital Association. Copies of the full survey report, which has now been distributed to AHA member institutions, are available from the Association at $2.50.

HOW MUCH does it cost the patient for a day in the hospital, aside from special expenses such as operating room and laboratory services? The survey of daily service charges in hospitals conducted by the American Hospital Association in 1960 was designed to answer this question by determining the average charges for routine services to full-pay adult inpatients in hospitals across the nation. These daily service charges, traditionally but misleadingly termed "room rates", cover not only the room accommodation but also food service, routine nursing care and minor medical and surgical supplies.

The 1960 survey was an outgrowth, rather than merely a continuation, of the annual surveys of hospital rates carried out by the Association from 1947 through 1959. Hospitals and payment agencies had indicated that the previous surveys, which had explored both "room rates" and charges for ancillary services, were not compiled in sufficient depth to meet their needs. It was therefore decided to limit future annual surveys to daily service charges, and within this area to define survey units more sharply and develop the data more fully. Charges for special services, such as laboratory and operating room, will be surveyed at less frequent intervals.

NONMEMBERS INCLUDED

Previous surveys had included only member hospitals of the Association but covered both the United States and Canada. The 1960 survey was limited to United States hospitals in the short-term nonfederal category, but was extended to include the nonmember hospitals.

Survey questionnaires requesting rates as of Oct 1, 1960, went out to 5455 hospitals in late September 1960, and 94 per cent were returned by the cutoff date, December 1.

Six specific categories of accommodations were defined in the 1960 questionnaire, from single-bed to six or more beds. Provision was made for entering multiple rates in each category, and the number of beds at each rate. The terms "private", "semiprivate" and "ward", often employed to describe room accommodations, were not used because their connotations differ among hospitals, even in the same locality.

The data thus gathered were classified and tabulated in order to determine the average charges and the range of charges, for hos-

pitals in different localities, of different size and with different types of controlling organization. Classification by geographic area was extended to include not only regions, states and large metropolitan areas, as in earlier surveys, but all standard metropolitan statistical areas.

For the limited number of hospitals employing inclusive rates rather than the usual multicharge schedules, a special report form was provided, and these data were separately tabulated.

A brief summary of the findings follows.

METHODS OF CHARGING

Of the 4692 hospitals in the survey, 90 were using inclusive rate systems with a single charge covering both routine daily services and special services. They were thus only two per cent of the total hospitals. However, their 38,884 beds represented 7 per cent of the total beds, since they tended to be larger hospitals in metropolitan areas. Only six were proprietary hospitals, the balance being evenly divided between the voluntary nonprofit hospitals and those under governmental auspices. Three specific geographic areas accounted for 54, or 60 per cent, of these inclusive rate hospitals: the New York City area with 23; the Cleveland area with 17; and the state of California with 14.

Of the 4602 hospitals using the traditional method of charging separately for routine and special services, 340 also reported some use of inclusive rates for certain types of patients. The 4602 hospitals supplied daily service charge schedules for a total of 504,874 beds in various types of accommodations. These same hospitals had reported a total bed count of 513,-859—some 9000 more—in the annual survey of hospitals conducted by the American Hospital Association the previous year.

ACCOMMODATION PATTERNS

The total beds in the two-bed accommodations accounted for nearly 44 per cent of all beds in the survey population, a far greater proportion than in any other category. (This proportion and those of other accommodations are shown in Chart 1.) Among hospitals classified by geographic location, the proportion of two-bed accommodations was greatest—about half—in the East North Central, West North Central and Mountain regions. Among hospitals classified by size, two-bed accommodations predominated throughout, but were most common in the smaller hospitals. Among hospitals classified by type of control, these accommodations accounted for more than half of the total full-pay beds in hospitals operated under city-county or hospital district auspices.

In single beds, the West South Central led regional classifications with 38 per cent of beds in single-bed rooms; in hospitals grouped by size, the proportion of such beds decreased steadily with increasing size, from 32 per cent in hospitals of less than 25 beds to 21 per cent in those of 500 or more beds.

The regional variation in the proportion of four-bed accommodations was quite large, ranging from 23 per cent in the New England region to 9 per cent in the West South Central. Among the various size groups over 50 beds, the proportion of beds in four-bed accommodations was almost constant at about 15 per cent, but in the groups under 50 beds it was lower.

The proportion of beds in accommodations with six or more beds was sharply higher in the New England and Middle Atlantic regions, in hospitals of 500 beds or more and in hospitals under state, city and county auspices.

DAILY SERVICE CHARGES

Average routine daily service charges for each type of accommodation in all surveyed hospitals

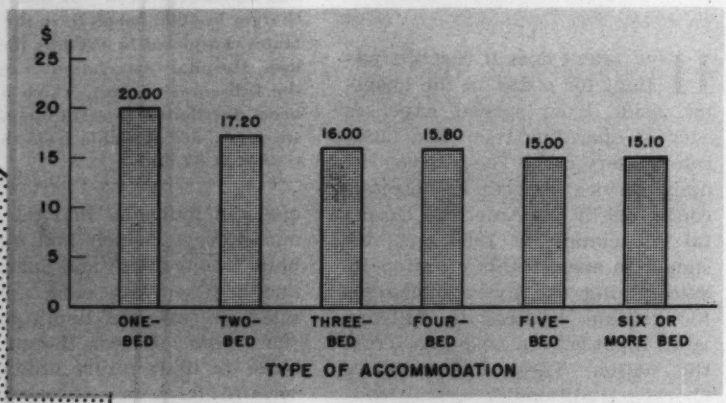


Chart 2—Average routine daily service charge for each type of accommodation in all survey hospitals

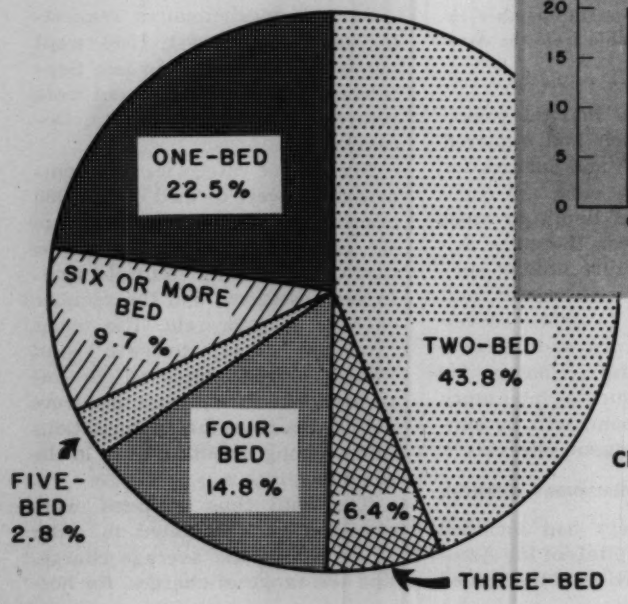
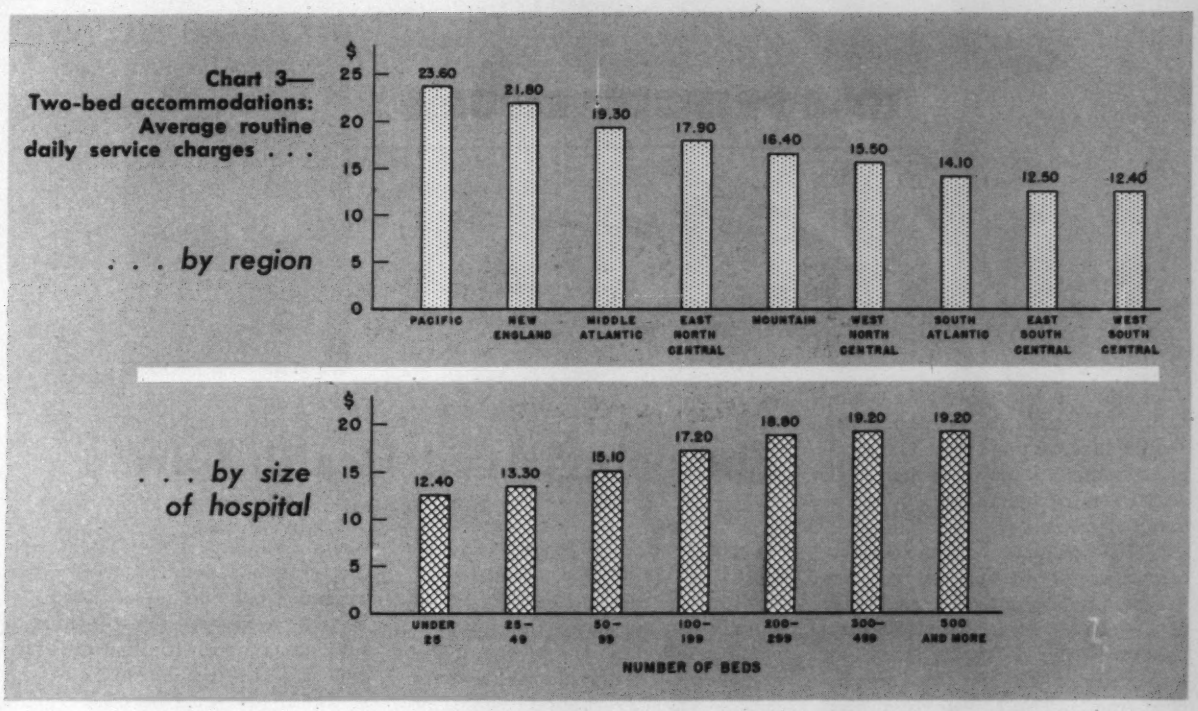


Chart 1—Distribution of bed by type of accommodation in all survey hospitals



are shown in Chart 2. For all types of accommodations, the highest average charge was found in the Pacific region, with New England a close second; the lowest averages were in the West South Central region. Among hospitals classified by number of beds, there was a steady and marked increase in average charges with increasing size of hospital for the following categories of accommodations: single-bed ($13 in hospitals of less than 25 beds to $24.30 in hospitals with 500 beds or more); two-bed (from $12.40 to $19.20—see Chart 3), and four-bed (from $11.90 to $18.70). The averages for the three-bed and five-bed accommodations showed similar increases with increasing size of hospital up through the 300-499 bed category, but dropped slightly in the largest hospitals, while for the six or more bed accommodations the averages fluctuated considerably within a narrower range.

Among hospitals classified by control, the hospitals of the voluntary group generally had higher average charges, especially those operated under nonprofit auspices other than church, while the governmental hospital averages were frequently in the lowest range. However, the variations by control were neither as consistent nor as wide in range as those noted in relation to regional location and size of hospital.

TRENDS

It has been emphasized that the 1960 survey data are both more specific and more comprehensive than data previously collected on average charges, and should serve as benchmarks to measure future trends. However, their comparability with earlier data is somewhat questionable because of the changes in hospital universe, reporting and classification.

A general increase in average charges noted over the years probably reflects not only rising hospital costs but also a trend toward a more realistic balance between charges for routine daily services and unit charges for special services.

LEVELS OF CHARGES

More than half of all beds (54 per cent) were accommodations within the range of $12 to $20 per day; an additional 27 per cent were from $20 to $28. Fifteen per cent were below $12, and only four per cent were $28 or over.

Charges below $12 were recorded for nearly 6 per cent of the single-bed accommodations; nearly 13 per cent of the two-bed; approximately 23 per cent of the three-, four- and six-bed or more; and 32 per cent of the five-bed accommodations.

In contrast, charges of $28 or more were made for nearly 12 per cent of the single-bed accommodations but for less than three per cent of those with two beds and only about one per cent or less in the remaining categories.

RATE SCHEDULE VARIATIONS

Survey data formed an interesting picture of the variation in rate schedules among hospitals classified by size and according to the number of rates charged for the various categories of accommodation. This variation was most marked in the larger hospitals and for the single-bed accommodations; the eight hospitals with 15 or more rates for single-bed accommodations all had 200 or more beds. For the six or more bed accommodations, on the other hand, only two hospitals (both over 300 beds) had as many as eight rates; two had five rates, and all the rest had four rates or fewer. Although only 193 hospitals lacked single-bed accommodations, and only 183 had none with two beds, 3601 had no five-bed accommodations and 3305 had none of six beds or more. ■

YOUR PRESIDENT REPORTS

Frank S. Groner, president
American Hospital Association

Financing Aged Health Care

ONE OF THE most pressing issues of our time is financing the health care of the aged. The hospitals of the nation recognized this, and it is uppermost in the minds of many citizens.

The policy position of the American Hospital Association on this question was adopted by the House of Delegates in 1958. The House reiterated the policy in 1959, and last year voted not to consider changing it. The House recognized that federal aid was necessary, and this coincides with the long-term belief of the AHA that government should assume responsibility for the indigent and the medically indigent of all ages.

The Kerr-Mills legislation, passed last year, provides that federal funds for care of the indigent and medically indigent over 65 years of age be made available to states on a participating basis. This program gives guide lines to the states but leaves in their hands the determination of eligibility and other administrative facets. The Association has urged the states to implement this program as rapidily as possible, and progress is being made. Six states, Puerto Rico, and the Virgin Islands are now participating; three other states are developing a plan; 11 states have authorizing legislation in process.

The AHA has consistently urged that government, preferably at state levels, assume its full responsibility in adequate payment to hospitals for the indigent and medically indigent. It also supports strengthening voluntary prepayment for greater effectiveness and broader coverage.

The AHA has opposed the use of the Social Security taxing mechanism for financing health care of the aged. We believe grave dangers are involved and doubt that they could be avoided.

First, as the purchaser of so much hospital care, the government could exert the power of the purse in ways detrimental to hospitals. The government would, as it should, become interested in economics, and this could lead to a concern with administration and operation. Because of the intimate relationship of hospital costs to quality of care, cost could become of primary concern, with quality care relegated to a secondary position.

Second, any underestimation of costs by the government would bring serious problems. Accentuating the concern over economics, it could have one or all of these results: increased taxation, a drain on the financial integrity of the Social Security system, or lowered costs.

Third, the use of Social Security implies a government commitment of such magnitude that there would be little possibility of retraction. It would constitute an irrevocable step.

Fourth, there is a danger that government provision of hospital benefits under a compulsory tax program could lead to uncontrollable overutilization and thus encourage runaway costs, with consequences that could be disastrous to hospitals and to the public.

Fifth, the acceptance of compulsory health insurance for one group of the population would foster its extension to other groups and ultimately to the entire population. We find it significant that the groups which place greatest urgency upon the use of the Social Security taxing system continue to support compulsory health insurance for the population generally as their long-run objective. This program for the aged, therefore, may be visualized as simply the first step toward compulsory health insurance for the nation.

ALTHOUGH it is doubtful that any legislation using Social Security can avoid the above risks, the Administration's proposal seems well planned with an understanding of the problems. We oppose it for other reasons besides our basic opposition to the taxing mechanism. The administration ought to be through Blue Cross, with its close hospital relationship. We reject the deductibles. The $90 deductible provision as contained in the Anderson-King Bill appears to be a means test. What it does is transfer the screening, with its resultant criticism, from government to hospitals. And we are confident that the proposed increase in Social Security taxes—estimated to yield slightly over $1 billion—is wholly inadequate to take care of the cost of the program.

One thing is certain. If the Anderson-King Bill or any other measure using the Social Security mechanism is passed by Congress, the effects will be far-reaching—not only on the financing of hospital care but on the quantity and type of hospital care received by the people of our nation.

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NATIONAL INTERN MATCHING PROGRAM—

the ninth annual report

by WARD DARLEY, M.D., and ALICE SKARZYNSKI

—In 1960, major teaching hospitals filled 78 per cent of their internships through NIMP

—Minor teaching hospitals filled 47 per cent of their internships through NIMP in 1960

—Hospitals not affiliated with medical schools filled only 22 per cent of their positions in 1960 through NIMP

THESE DATA appear in the ninth annual report of the National Intern Matching Program (NIMP). Administrators of nonaffiliated hospitals have been acutely aware of the diminishing attractiveness of their internship programs to graduates of United States medical schools. The NIMP report clearly indicates that medical school affiliation is considerably more important in attracting U.S. medical school graduates than is the size of the stipend offered.

Some other interesting data from the report are: (1) of a total of 7050 graduates of U.S. medical schools, 6698 (95 per cent) participated in the NIMP program; (2) of a total of 826 approved hospitals, 808 (98 per cent) participated in the program; (3) of the 1074 intern programs offered, 98 per cent participated in NIMP.

Tables 1 through 5 bring most of the basic data up to date. Table 1, page 56, which depicts the numerical and percentage participation of U.S. and Canadian graduates and approved U.S. hospitals and programs, shows no significant changes in the 1960 figures compared with the previous five years.

UNMATCHED GRADUATES

Except for continued increases in number of intern positions offered and students participating, Table 2, page 56, shows no significant change over previous years. However, to give clarification to the significance of graduates that go unmatched, two new columns (10 and 11) have been added to this table. The figures in these two columns break the unmatched participants into two groups: (1) those from U.S. and Canadian schools and (2) those from foreign schools. The number of unmatched U.S. and Canadian graduates has steadily declined; the number of unmatched foreign graduates increased prior to 1959, but decreased in the last two years.

The National Intern Matching Program was originally established with the idea that the only graduates eligible for participation would be those from U.S. and Canadian schools. But certain participating hospitals would not accept applications from foreign graduates except through NIMP and as a consequence, the participation of foreign graduates was permitted. The number participating has never been large.

Beginning with the eighth program in 1959, however, participation of foreign graduates in NIMP was limited to those with certification from the Educational Council for Foreign Medical Graduates (ECFMG). As a consequence, only four foreign graduates participated, all of whom were matched. For the 1960 program, the number of participating foreign graduates rose to 82, all but 11 of whom were matched.

The number of Canadian graduates participating in the program

Ward Darley, M.D., is executive secretary, and Alice Skarzynski is assistant secretary, National Intern Matching Program, Inc., Evanston, Ill.

Table 1—The number and percentage participation of U.S. graduates and approved hospitals and programs, 1952-1960.

	1952	1953	1954	1955	1956	1957	1958	1959	1960
Total U.S. graduates participating	5617	5947	6258	6533	6430	6498	6576	6562	6698
Total U.S. graduates	6153	6418	6672	6870	6719	6689	6862	6850	7050
Per cent U.S. graduates participating in NIMP	91.3	92.7	93.8	95.1	95.7	97.1	95.8	95.8	95
Hospitals participating in NIMP	795	808	820	814	821	822	819	818	808
Total approved hospitals	826	833	836	826	834	833	835	834	826
Per cent hospitals participating in NIMP	96.2	97	98.1	98.5	98.4	98.7	98.1	98.1	97.8
Total intern programs offered	1068	1102	1032	1056	1063	1052	1062	1069	1074
Total approved intern programs	1102	1130	1048	1068	1076	1063	1078	1085	1092
Per cent programs participating in NIMP	96.9	97.5	98.5	98.9	98.8	99	98.5	98.5	98.3

Table 2—General Results, 1952-1960.

1 Year	2 Hospitals participating	3 Intern programs offered	4 Total positions offered	5 Total positions filled	6 Per cent filled	7 Number unfilled positions	8 Students participating	9 Students unmatched	10 U.S. and Canadian Students unmatched	11 Foreign Graduates unmatched
1952	795	1068	10414	5564	53	4850	5681	117	..	..
1953	808	1102	10971	5744	52	5227	6033	289	..	..
1954	820	1032	10729	6051	56	4678	6412	361	..	..
1955	814	1056	11075	6379	58	4696	6713	334	311	23
1956	821	1063	11459	6588	57	4871	6821	233	271	62
1957	822	1052	11804	6539	55	5265	6923	384	275	109
1958	819	1062	11958	6734	56	5224	7131	397	245	152
1959	818	1069	12250	6478	53	5772	6729	251	251	0
1960	808	1074	12390	6673	53.8	5717	6911	238	227	11

Table 3—Percentage of students matched by order of choice.

Year	Per cent first choice	Per cent second choice	Per cent third choice	Per cent fourth choice or lower
1952	84	10	3	3
1953	85	10	3	2
1954	82	11	4	3
1955	76	14	5	5
1956	74	15	6	5
1957	76	13	6	5
1958	74	14	6	6
1959	77	12	5	6
1960	74	13	6	7

has never been large—the high year was 1951 with 154; 90 participated in 1955, and 116 in 1960. Canada conducts its own matching program, the Canadian Intern Placement Service, (CIPS) in which U.S. graduates are eligible to participate. Neither U.S. nor Canadian graduates can participate in both programs; they must choose one or the other.

CHOICES OF HOSPITALS

Table 3, left—percentage of students matched by order of choice—shows that since 1955, the percentage receiving first choice has been somewhat lower than in

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Habitual abortion		
1st trim.	10 mg. daily.	50 mg. I.M. weekly.
2nd trim.	20 mg. daily.	100 mg. I.M. q. 2 wks.
3rd trim.	40 mg. daily, through 8th month.	100 mg. I.M. q. 2 wks. through 8th month.
Supplied:	2.5 mg. scored, pink tablets, bottles of 25; 10 mg. scored, white tablets, bottles of 25 and 100.	Sterile aqueous suspension for intramuscular use only. 50 mg. per cc., in 1 cc. and 5 cc. vials.†

Precautions: Clinically, Provera is well tolerated. No significant untoward effects have been reported. Animal studies show that Provera possesses adrenocorticoid-like activity. While such adrenocorticoid action has not been observed in human subjects, patients receiving large doses of Provera continuously for prolonged periods should be observed closely. Likewise, large doses of Provera have been found to produce some instances of female fetal masculinization in animals. Although this has not occurred in human beings, the possibility of such an effect, particularly with large doses over a long period of time, should be considered.

Provera, administered alone or in combination with estrogens, should not be employed in patients with abnormal uterine bleeding until a definite diagnosis has been established and the possibility of genital malignancy has been eliminated.

†Each cc. of Depo-Provera contains: Medroxyprogesterone acetate, 50 mg.; Polyethylene glycol 4000, 28.8 mg.; Polysorbate 80, 1.92 mg.; Sodium chloride, 8.65 mg.; Methylparaben, 1.73 mg.; Propylparaben, 0.19 mg.; Water for injection, q.s.

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Table 4—Applications per student.

Year	No. students	No. applications	No. applications per student
1952	5681	21728	3.8
1953	6033	19416	3.2
1954	6412	21579	3.4
1955	6713	25617	3.8
1956	6821	29474	4.3
1957	6923	30434	4.4
1958	7131	32090	4.5
1959	6729	29416	4.4
1960	6911	32765	4.7

Table 5—Hospitals' rankings of students with whom they were matched.

Year	Per cent matched from Rank Group 1*	Per cent matched from Rank Group 2*	Per cent matched from Rank Group 3*	Other	Total
1956	61	24	11	4	100
1957	71	19	7	3	100
1958	67	22	8	3	100
1959	69	21	8	2	100
1960	56	24	13	7	100

*If hospital quota is 10, first 10 graduates on list form Rank Group 1, numbers 11-20 Rank Group 2, etc.

previous years. Table 4, above discloses a continued slow increase in the average number of applications per student.

Table 5, above—hospitals' rankings of students with whom they were matched—shows a rather moderate shift from Group 1 to Groups 2, 3 and 4. This means that for 1960, more hospitals were matched with their lower ranked applicants.

The findings in Tables 3, 4 and 5 in all probability reflect a growing tendency for students to try for hospitals where their chances of acceptance are open to question, but where they would like to intern if they possibly can. A student can justify such "tries" because he knows he is not hurting his chances for his lower choice hospitals—hospitals which he formerly would have given higher rankings.

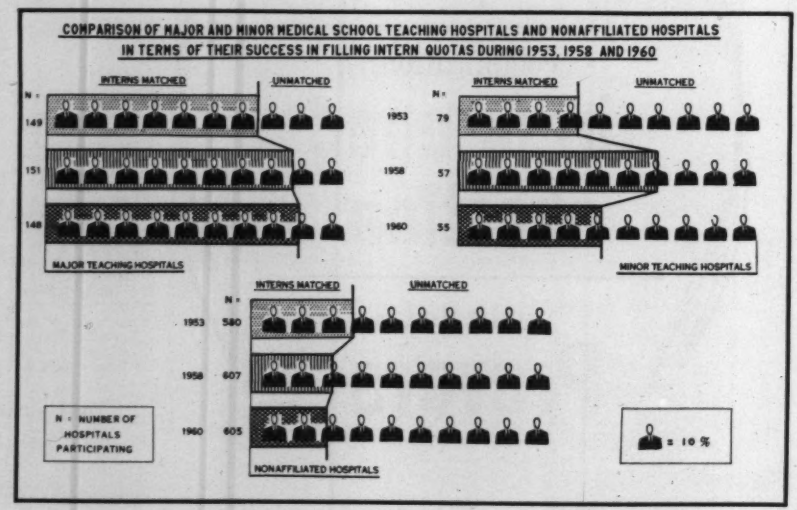
Tables depicting the types and numbers of internships offered and filled and also the types and numbers of straight internships offered and filled through NIMP since 1952 are not repeated in this report. The eighth annual report indicated that, in general, there was a growing preference for straight internships and from among these, for internships in medicine, surgery and pathology.[1] After more time has elapsed, against which further change can be appreciated, these tables will be repeated.

TYPES OF HOSPITALS

The program for 1958 was the last time that NIMP experience was analyzed for number and percentage of internships filled according to type of hospital (major and minor teaching affiliated, nonaffiliated and federal), amount of stipend and size of program.[2] In general, the 1958 report indicated an improving situation for major and minor affiliated teaching hospitals, for federal hospitals, for hospitals that offered monthly stipends of less than $100 and for hospitals that had programs involving from 20 to 49 interns. With the present report, it was decided to more carefully analyze type of hospital and amount of stipend as possible factors influencing student choice of internship. The data regarding type of hospital cover the period from 1953 or 1954 through 1960. The federal hospitals have been eliminated from this consideration.

The comparison of major and minor teaching hospitals affiliated with medical schools and of nonaffiliated hospitals in terms of their success in filling their internship positions in 1953, 1958 and 1960 is presented in Figure 1, below. The

Figure 1



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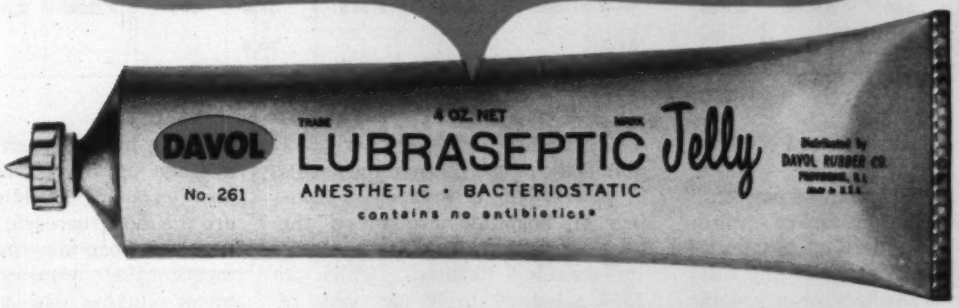

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Table 6—Major teaching hospitals.

Range of Success in Matching Program	1953				1958				1960			
	Number of Hospitals	Interns Sought	Interns Matched	Per Cent Matched	Number of Hospitals	Interns Sought	Interns Matched	Per Cent Matched	Number of Hospitals	Interns Sought	Interns Matched	Per Cent Matched
100 per cent	39	897	897	100	45	1,224	1,224	100	45	1,313	1,313	100
99-50 per cent	58	1,962	1,457	74.3	78	2,528	1,976	78.2	70	2,261	1,882	83.2
49-01 per cent	40	930	289	31.1	22	526	182	34.6	26	758	283	37.3
0 per cent	12	87	0	0	6	47	0	0	7	49	0	0
TOTAL	149	3,876	2,643	68	151	4,325	3,382	78.2	148	4,381	3,478	79.4
OVER-ALL WEIGHTED PER CENT				70.0				80.7				83.4

Table 7—Minor teaching hospitals.

Range of Success in Matching Program	1953				1958				1960			
	Number of Hospitals	Interns Sought	Interns Matched	Per Cent Matched	Number of Hospitals	Interns Sought	Interns Matched	Per Cent Matched	Number of Hospitals	Interns Sought	Interns Matched	Per Cent Matched
100 per cent	11	177	177	100	11	145	145	100	6	89	89	100
99-50 per cent	20	271	190	70.1	25	364	265	72.8	19	275	188	68.4
49-01 per cent	28	403	106	26.3	13	175	38	21.7	21	304	93	30.6
0 per cent	20	205	0	0	8	62	0	0	9	85	0	0
TOTAL	79	1,056	473	44.8	57	746	448	60.1	55	753	370	49.1
OVER-ALL WEIGHTED PER CENT				38.3				64.7				46.9

Table 8—Nonaffiliated hospitals.

Range of Success in Matching Program	1953				1958				1960			
	Number of Hospitals	Interns Sought	Interns Matched	Per Cent Matched	Number of Hospitals	Interns Sought	Interns Matched	Per Cent Matched	Number of Hospitals	Interns Sought	Interns Matched	Per Cent Matched
100 per cent	62	1,120	1,120	100	65	841	841	100	70	1,219	1,219	100
99-50 per cent	128	1,475	1,030	69.8	127	1,607	1,109	69	105	1,578	1,151	72.9
49-01 per cent	178	2,085	478	22.9	151	1,797	428	23.8	156	1,974	455	23
0 per cent	212	1,359	0	0	264	2,116	0	0	274	2,485	0	0
TOTAL	580	6,039	2,628	43.5	607	6,361	2,378	37.4	605	7,256	2,825	38.9
OVER-ALL WEIGHTED PER CENT				31.2				23.8				22.3

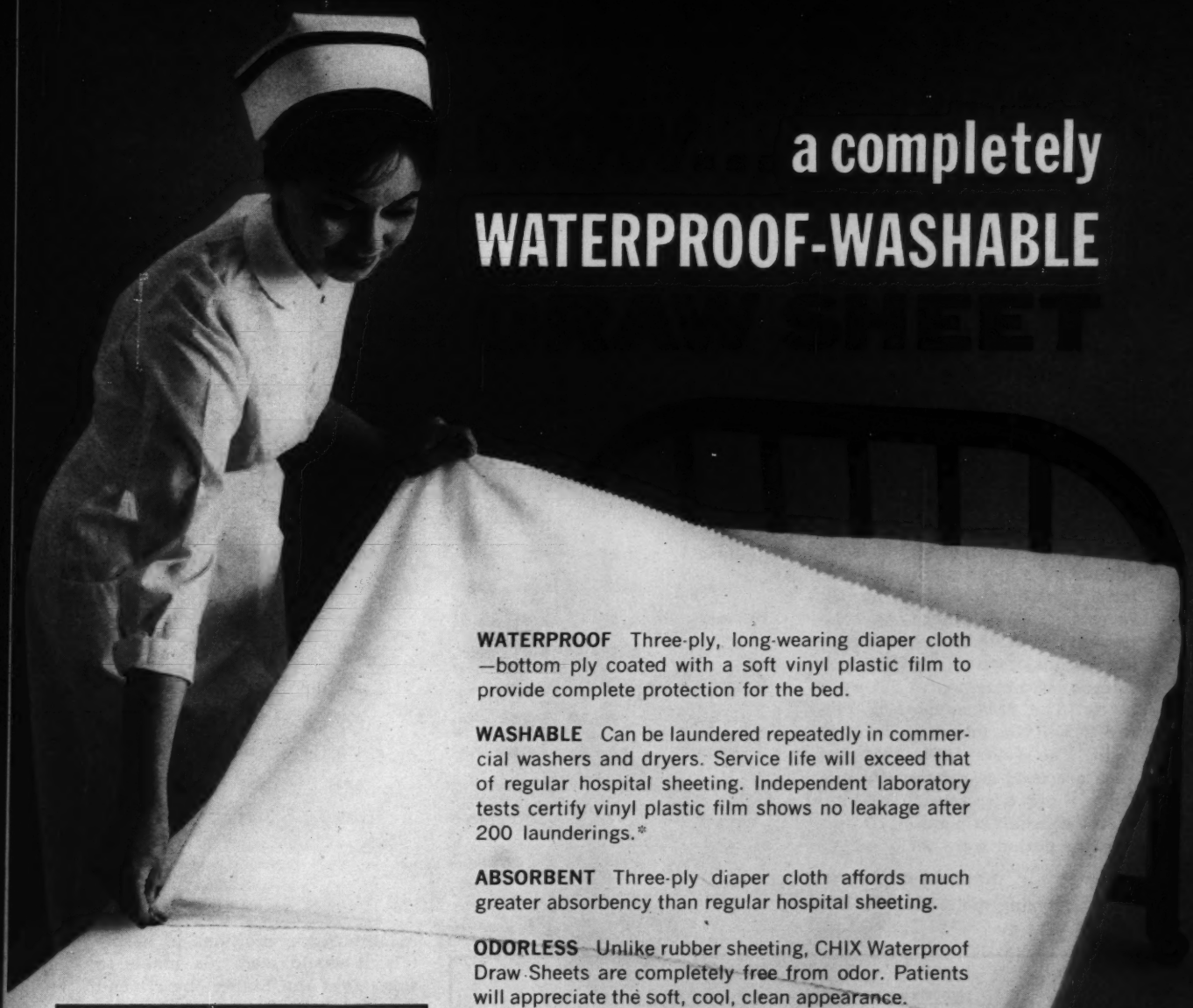
data upon which Figure 1 is based can be found in Tables 6, 7 and 8.

The "over-all weighted per cent" noted in the bottom line of each of these tables is derived by multiplying the percentage of the total number of hospitals or a specific type with a specific level of success in filling their internship quota (e.g., major teaching hospitals which fill 50 to 99 per cent of their quotas) by the "per cent matched" figure listed for this type of hospital in the table. This calculation weights the over-all "per cent matched" figure so that the levels of success having the largest number of hospitals are given the greatest weight. Thus, the 58 major teaching hospitals, which in 1953 filled 50 to 99 per cent of their quotas, are given greater weighting than the 12 hospitals in 1953 which did not fill any of their quotas.

MAJOR TEACHING HOSPITALS

Figure 1 indicates that the major teaching hospitals with an annual average of 78 per cent of their positions being filled through NIMP are the most successful of the three types of hospitals reported on in meeting their requirements for interns. Further, the proportion of filled positions in this type of hospital has tended to increase over the years from 70 per cent in 1953 to 83 per cent in 1960.

The minor teaching hospitals have met with only moderate success in filling their internship posi-



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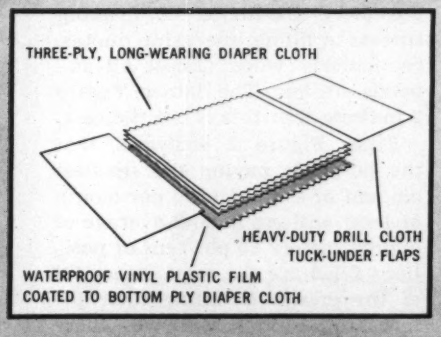

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tions; they have filled an average of 50 per cent of their positions annually. This type of hospital also showed the greatest variation from year to year in proportion of positions filled; i.e., 38 per cent in 1953; 65 per cent in 1958, and 47 per cent in 1960.

The nonaffiliated hospital meets with the least success of the three types of hospitals in filling its internship positions. This type of hospital shows an annual average of 26 per cent of positions filled. In contrast to the trend indicated in the major teaching hospitals of increasing success over the years in filling positions, the nonaffiliated hospital indicates a decline in proportion of positions filled from 31 per cent in 1953 to 22 per cent in 1960.

A second basis for comparison of hospital internship programs is the amount of stipend paid to the interns. Comparative data on the success in filling internship positions experienced by hospitals paying various amounts of stipends to interns are presented in Figure 2, below. The data supporting Figure 2 will be found in Table 9, right. The years 1954, 1958 and 1960 are used as reference points. Only those hospitals that maintained constant stipend levels during this period were included.

Table 9—Number and proportion of intern positions filled through NIMP by hospitals paying various levels of stipend.*

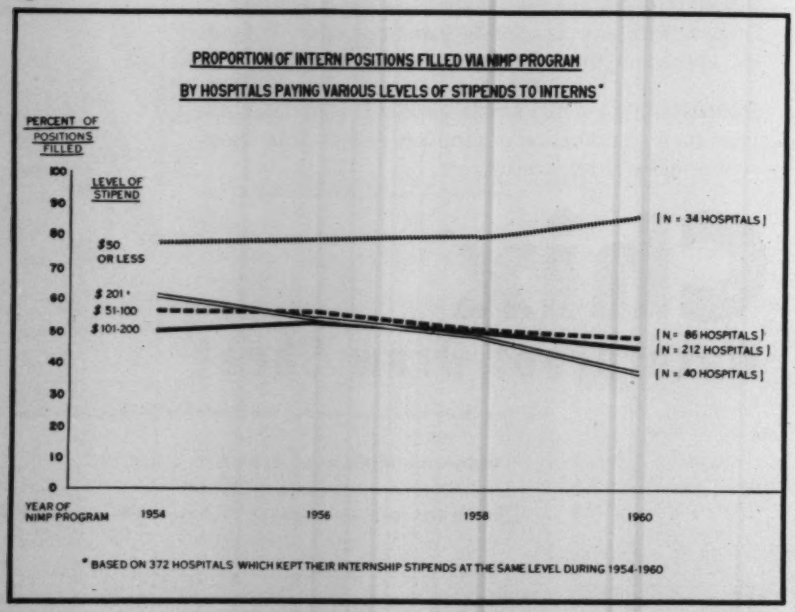
Year	Number of Hospitals	Stipend Level per Month	Total Positions Offered	Number Positions Matched	Per Cent Matched
1954	34	$50 or Less	881	695	79
1956	34	$50 or Less	961	756	79
1958	34	$50 or Less	989	786	80
1960	34	$50 or Less	991	856	86
1954	86	$51 - 100	1327	741	56
1956	86	$51 - 100	1350	753	56
1958	86	$51 - 100	1399	713	51
1960	86	$51 - 100	1482	704	48
1954	212	$101 - 200	2327	1159	50
1956	212	$101 - 200	2499	1316	53
1958	212	$101 - 200	2656	1318	50
1960	212	$101 - 200	2818	1271	45
1954	40	$201 or More	430	262	61
1956	40	$201 or More	458	249	54
1958	40	$201 or More	473	231	49
1960	40	$201 or More	460	173	38

*Based on figures from 372 hospitals which kept their internship stipends at the same level during 1954-1960.

INFLUENCE OF STIPENDS

In analyzing the problem of filling internship positions in hospitals, it would seem reasonable to think that the higher the stipend the more likelihood of meeting success in filling internship quotas, particularly when almost all stipends are low. The data in Figure 2 indicate that this is not the case.

Figure 2



First, Figure 2 indicates that the hospitals paying the smallest amount of stipend ($50 per month or less) with an annual average of approximately 80 per cent of positions filled are the most successful of the groups in filling their internship positions. Moreover, these hospitals show a slight trend toward increasing success over the years—from 79 per cent in 1953 to 86 per cent in 1960. Among the hospitals in this group, 25 out of 34, or 74 per cent, are major teaching hospitals.

Each of the other groups of hos-

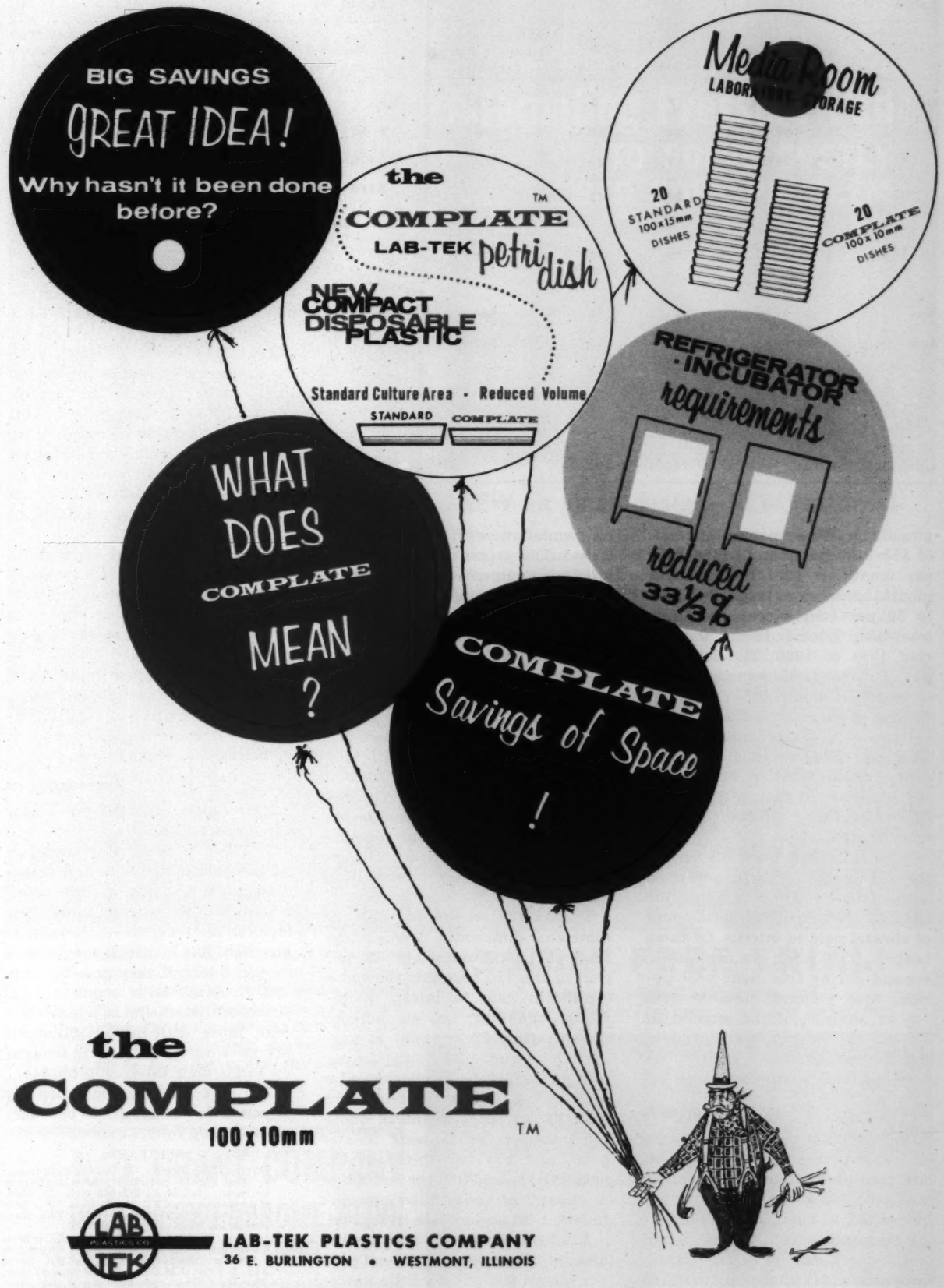


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Table 10

	Amount of Gain or Loss	Number	Per Cent	Average Value of Increase of Stipend per Month
Net	50% or more	7	3	$79
Gain	25% - 49%	24	11	$76
	1% - 24%	58	28	$73
		89	42	
No Change	0	39	19	$70
Net	1% - 24%	41	19	$66
Loss	25% - 49%	31	15	$67
	50% or more	10	5	$70
		82	39	
	TOTAL	210	100	

Table 11

Amount of Stipend Increase	Number	Per Cent of Total	Average Amount of Change in Quota-Filling Capability
$ 1 - 49	64	30	—7%
$ 50 - 99	96	46	—1%
$100 - 149	40	19	+4%
$150 or more	10	5	+3%
TOTAL	210	100	

pitals (i.e., those paying stipends of $51-$100 per month, $101-$200 per month or $201 or more per month) show an average of roughly 50 per cent success in filling internship quotas during the period 1954 to 1960. The hospitals paying stipends amounting to $201 or more per month show a general decline in success in filling quotas —from an average of 61 per cent of quotas filled in 1954 to 38 per cent of quotas filled in 1960. Among the hospitals in this latter group, 37 out of 40, or 93 per cent, are nonaffiliated hospitals.

A total of 319 hospitals among the 691 hospitals participating in each of the NIMP programs from 1954 to 1960 changed the amount of stipend paid to interns. Of these hospitals, 210 made one increase in stipend during this eight-year period, thus yielding suitable data for an analysis of the amount of success the hospitals achieved in filling their quotas of interns before and after a stipend increase.

NET GAIN OF LOSS

Results of an analysis of net gain or loss in percentage of quota filled are presented for the 210 hospitals in Table 10, above. The data are presented in terms of the number of hospitals which showed a net gain, no change or a net loss in proportion of intern quota filled concommitant with a stipend increase. The proportions of the 210 hospitals analyzed which showed a net gain, no change or a net loss in proportion of intern quota filled is also indicated. Finally, the average dollar value of increase in stipend is shown for each level of gain or loss in quota-filling capability.

Approximately two-fifths of the hospitals showed a gain in intern quota filled concommitant with a stipend increase and approximately the same number showed a loss of intern quota filled. The remaining one-fifth showed no change whatsoever in their quota-filling capability.

Stating the results of Table 10 somewhat differently, it was found that: (1) approximately 15 per cent of the 210 hospitals showed a significant gain in intern quota-filling capability; i.e., an increase of more than 25 per cent in proportion of quota filled; (2) 20 per cent of the 210 hospitals showed a definite loss (a decrease of more than 25 per cent) in intern quota filled, despite an increase in stipend, and (3) two-thirds of the hospitals showed little or no change in amount of quota filled concommitant with an increase in stipend.

It will be noted that the average amount of increase in stipend paid per month shows very little variation between those hospitals which showed a gain in quota filling capability and those that showed a loss in this capability.

Table 11, above, indicates: (1) the number of hospitals increasing their intern stipends by varying amounts; (2) the proportions of all 210 hospitals which increased their stipends by a given amount, and (3) the average amount of change in quota-filling capability that was concommitant to a given level of stipend change.

The great majority (76 per cent) of all hospitals which increased their stipends made an increase of less than $100 per month. The average dollar amount of increase of stipend for all 210 hospitals in the sample was approximately $75. Further, there is very little change, on the average, in quota-filling capability irrespective of the amount of increase in stipend.

CONCLUSIONS

This report discloses essentially three conclusions:

1. There is a growing tendency on the part of the U.S. and Canadian students to add, as first choice, hospitals in which they think their chances for acceptance are open to question, but in which they would like to intern if they possibly can.

2. Hospitals with major medical school affiliation and to a lesser extent, those with minor affiliations are showing an increasing tendency to fill their internship quotas.

3. Large or increasing monthly stipends do not appear to be a factor in filling intern quotas.

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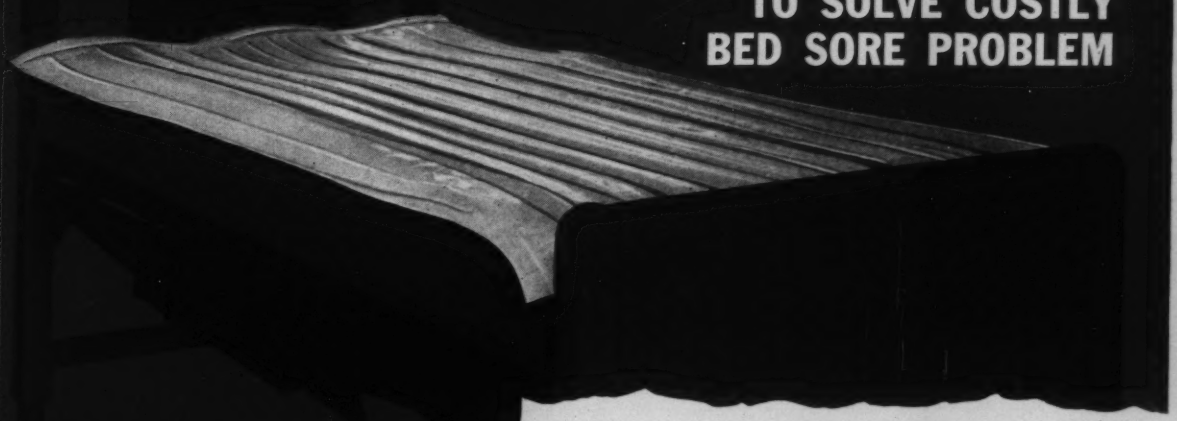

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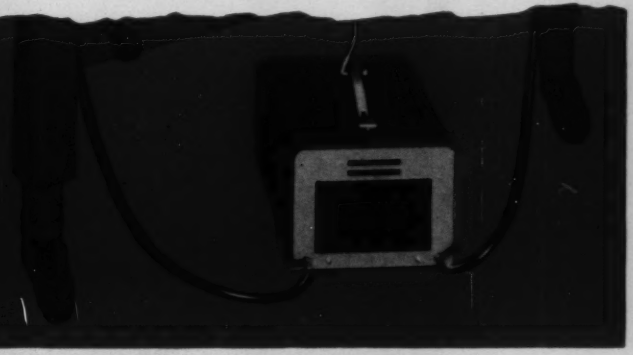

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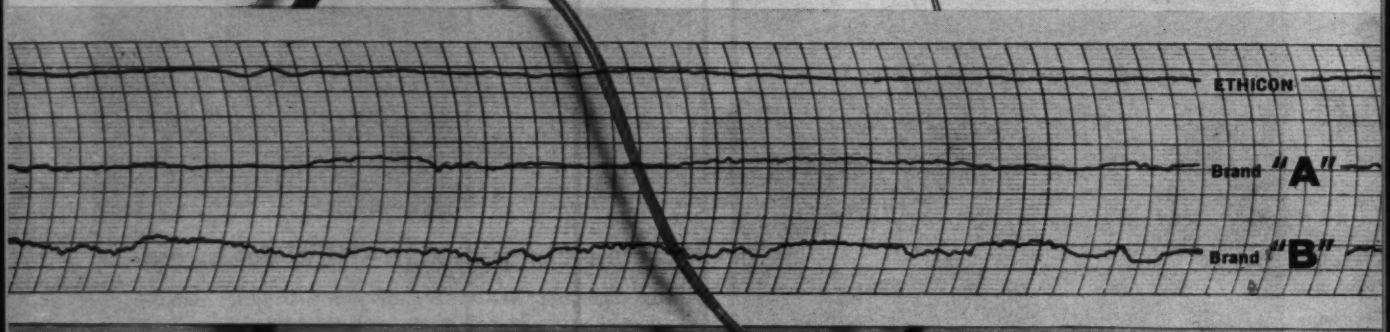

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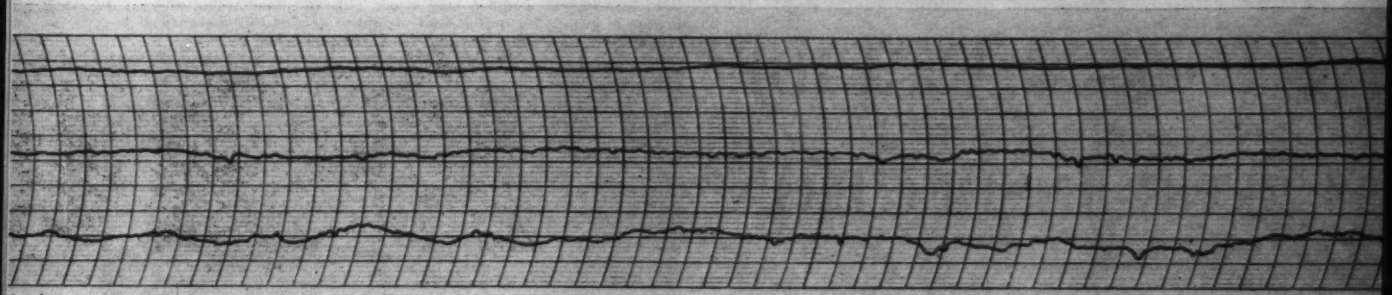

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food service and dietetics

A GUIDE FOR INSPECTION OF PERISHABLES

by LOIS L. GOOD

(ABOVE) Scales are important equipment for the inspection of perishables. In this picture, administrative dietitian (right) and dietetic intern (left) inspect and weigh a beef chuck. (BELOW) A sampling of eggs is broken to inspect for grade. Both weight of egg and appearance of uncooked yolk and white are taken into consideration.

BOXES containing perishables such as oranges should be emptied to inspect for quality. A spot-check for count should also be made.

All perishables should be inspected as soon as they are delivered to insure receipt of the quality and quantity of food ordered, the author states. She describes requirements for effective inspection, such as adequate equipment for receiving, personnel who know specifications and quality, and specification charts for guidance in receiving.

WHY TAKE the time to inspect perishables delivered to the hospital? If you have ordered the best grade, specified exactly the weight, size and type of item you expect to receive, and have dealt with a reputable firm, you may think it should not be necessary to inspect perishables at time of delivery.

If you have taken the time to specify exactly what you want delivered, you will want some assurance that specifications have been recognized. Therefore, to be sure that you have received the quantities ordered and the quality demanded, all perishables should

Lois L. Good is assistant chief, dietetic service, Veterans Administration Hospital, Hines, Ill. The statements and conclusions of this article are those of the author and do not necessarily reflect the opinions and policies of the Veterans Administration.

This article is adapted from a presentation at an American Hospital Association Food Purchasing Institute held in June 1960.

be inspected upon delivery.

Quality of fresh fruits and vegetables may have been determined by the U.S. Department of Agriculture at the point of shipping, but delays en route may have reduced this quality to that of a lower grade. Department of Agriculture inspection may have been made at the vendor's store just prior to delivery, but if the shipment is not inspected when it arrives at the hospital, can you be sure you have received the item that was inspected and not a substitute? Frozen foods may be delivered in a partially thawed state, which causes flavor loss. They may not be the grade requested, or may be a different size. Only inspection at delivery point will show these discrepancies.

Quantity should be checked simply to assure that no error has been made. The invoice indicates shipment of 500 pounds of potatoes, but the loader at the vendor's store may have overlooked one bag. If this item is not weighed and counted upon delivery, you will be short 100 pounds. Your order may specify 200 pounds of portion-cut rib steaks weighing 8 ounces per portion. If the meat is not inspected for both total weight and portion weight, you may receive a 10-ounce portion cut, which would make the total shipment inadequate for your needs. Inspection and weighing of individual items will preclude substitution of a cheaper item, such as hamburgers for cubed steaks. These are just a few examples of why inspections should be made.

Inspection should be done by a person who is familiar with the quality requested and who knows the specifications used when the order was placed. Often this task is delegated to the dietitian in charge of food production. The purchasing department also may have a representative present to check for weight and quantity. In such a set-up the purchase order would be initialed or signed by both persons as a future reference.

If only one person is assigned to inspection of perishables, he should be able to recognize quality and follow the specification guides furnished. Under these circumstances, it is advisable to have him tag each item with the delivery weight.

Regardless of the number of persons making inspections, purchase orders should be signed only for the quantity received. The use of two persons saves time because they can be weighing and inspecting for quality at the same time.

Where the inspection should take place depends upon the layout of the hospital. Preferably the service entrance should be on the same level as, and near to, the storage areas for ease in handling items received. The inspection should be made as near the unloading platform as possible. This insures that once perishables are inside the storage area, they will have been inspected and will not be overlooked.

Inspection should be made immediately upon delivery for several reasons:

1. Some delivery trucks are not refrigerated, and delay in inspection and in storage under refrigeration can downgrade the quality of perishables.

2. Truck drivers usually have other deliveries to make and do not wish to wait.

3. It is to your advantage to be able to store perishables immediately upon delivery. This means inspection as soon as they arrive in order to speed storage.

HOW TO CONDUCT AN INSPECTION

1. Adequate facilities and equipment are necessary for effective inspection. Since weight is so important, an accurate scale should be furnished. Platform scales built into the floor are widely used because they eliminate extra lifting and handling. They should have a clear, legible face or bar. If the hospital does not have a built-in platform scale, then a portable platform scale with a legible bar is essential.

Other items of equipment that help to facilitate inspection include a device for opening boxes and crates, a ruler, a sizer and knives of adequate size. Inspection of dairy products calls for a large scale, small scale, a light for candling eggs, dishes for breaking eggs and a measure graduated in cubic centimeters for measuring milk and cream products. When a person is inspecting fresh fruits and vegetables, extra cartons and baskets are desirable for use in checking some items for quality and quantity.

2. Charts showing the specifications and grades used in preparing the order should be available to the inspector so that he can be certain he is accepting the correct item. Any other charts that picture grades of perishables will be helpful to him. Above all, he should not depend on his memory for the acceptance of the grade and quality ordered.

Before the actual inspection takes place, of course, it might be well to bring to mind the preliminary knowledge necessary for placing an order.

In addition to knowing how to write specifications, the purchaser needs to know what is on the market in terms of quality, size, count, weight and style of cut.[6] You have a much better chance of receiving high quality items if you order only those that are available. Specifications should be so clear that no decisions are left to the purveyor.

FRESH AND FROZEN MEATS

For meat inspection you have probably specified government grade, description of quality, the style of cut, the weight of unit, measurement, trim and—if applicable—the fat content, amount of bone, proportion of breading to total weight and the packaging.[3,6] With these points in mind the inspection can proceed.

Inspect portion-ready cuts or pan-ready roasts for total net weight, portion weight and count. This is the procedure to follow regardless of the kind of meat, poultry or fish purchased. If frozen meat has been specified, make certain there has been no thawing of any of the packages. Note the type of packaging and its condition.

If primal cuts or carcass of beef, lamb and veal are purchased, inspect for the following points:

1. Check for grade stamp and for the Department of Agriculture inspection stamp for wholesomeness.

2. Inspect meat for color, fat marbling, conformation and any other features specified in the order.

3. Weigh pieces individually for unit weight. Individual shoulders, rounds, loins, etc., should be within the weight range specified if you

are to obtain the yield expected.

4. Weigh carcass or primal cut for total weight; unwrap pieces when necessary.

5. Measure specific items for cut and trim.

On cured meats, the inspection and grade stamp should be visible on each piece.

1. Unwrap bacon slabs, weigh, check for mold and for rind on or rind off, and cross-cut a slab to determine the amount of leanness. Check for the total weight of order. If you are accustomed to purchasing a specific brand that you have always found satisfactory, spot-check the order to assure weight range and to preclude substitutions.

2. Inspect cured hams for grade and inspection stamps; unwrap and weigh them both for individual and total weight. If your specifications call for the fat trim to be a certain depth, cross-cut the ham and measure it for fat trim as well as inspect it for internal appearance. If you have specified ready-to-eat hams, inspect each piece to assure this characteristic.

3. Weigh corned beef and check it for color and for extra fat.

4. See that frankfurters are dry, firm, sweet smelling and without mold.

5. Inspect cold cuts, if purchased in the piece, for characteristic odor, size and type of casing.

Special procedures to follow in inspecting liver and fresh pork products are the following:

1. Check liver, when purchased unsliced, for inspection and grade stamps and for weight; be sure that it is firm with a good, fresh odor. If frozen, there should be no evidence of thawing.

2. Carefully inspect fresh pork cuts for weight, grade and inspection stamps, and condition. The meat should be firm and dry, not sticky or slimy.

POULTRY

Have the ice removed from fresh poultry before it is weighed. Check the boxes for the Department of Agriculture inspection stamp. Frozen poultry is usually individually wrapped. Remove the wrappings before weighing it. Inspect frozen poultry for possible thawing and freezer burn. Department of Agriculture inspection takes place at the time the poultry is slaughtered and frozen. The date will indicate how long the poultry has remained in storage. Check this stamp if you have specified a time on the length of storage.

FISH AND SEAFOOD

Inspect fish for odor, total weight, type of cut, number of cuts per pound and size of container. You can inspect frozen fish and seafood for count as stamped on the container, type of packaging, type of cut and total weight. For breaded items, inspect for proportion of breading to weight of fish. Fresh fish is usually packed in crushed ice; this should be removed to permit inspection for net weight.

EGGS AND DAIRY PRODUCTS

For the inspection of eggs and dairy products, let us assume that specifications denote grade, quality, size if applicable and type of packaging.

Eggs, Shell and Frozen—Check cases of the shell eggs for Department of Agriculture stamp, either on the case or on the tape sealing the case. Inspect a random sampling of cases for cleanliness and cracks. Weigh the cases to determine whether the size of the eggs is the same as requested, or weigh a sampling in individual dozens to determine if the size requested has been received. Break a sampling of eggs for grade. Eggs may be candled by use of a light if there is doubt about the grade.

Frozen eggs are difficult to inspect for quality. Inspection by the Department of Agriculture during processing is highly desirable. If tested at the terminal market they should be accompanied by a certificate of inspection. At the time of delivery, inspect the lot for size of container, condition of container and quantity by weight.

Milk and Cream—At delivery, inspect the lot for leaking cartons or cracked bottles. Milk and cream is usually accepted on the basis of count rather than weight. It is advisable to spot-check the fill of containers by weighing individual cartons; periodically inspect them for quantity received by pouring into a graduated measure the milk from a random sampling of cartons. Machinery used in filling cartons can become worn so that many cartons will not contain a full measure. Report partially filled containers to the dairy for an adjustment.

Laboratory tests of milk and cream for butterfat and bacterial count cannot be made at the time of delivery. However, such tests afford protection if accomplished on a weekly basis.

Ice Cream and Sherbet—When ice cream is delivered, inspect it for the quantity requested by making a count. If you have specified a minimum weight per gallon, inspect it for quantity by weight. Ice cream, like milk and cream, should undergo a weekly laboratory test for butterfat and bacterial count.

Cheese—Inspect cottage and cream cheese for odor, creaminess, flavor and quantity. Inspect all other types of cheese for general condition, length of cure, type—processed or natural, package and quantity by weight.

Butter—Inspect butter for grade or score and quantity by weight in prints or pats. If pats have been ordered, check the number of portions per pound to make certain they comply with your request. Spot-check butter for mold and flavor. Make certain that you have received the type of packaging ordered, and check the condition of the packaging. This may sound ridiculous, but occasionally cases of butter arrive with smashed corners or water-soaked exteriors. Either kind of damage to the carton can affect the condition of the butter.

FRESH FRUITS AND VEGETABLES

Much better control of the quality of fresh fruits and vegetables can be attained if tolerances are specified. Tolerances are a specified percentage of the total weight or count that, though not meeting specifications, will be accepted. For example, if the specifications call for tomatoes of not less than 2½ inches or more than 3¼ inches in diameter, the acceptable tolerance may allow no more than 10 per cent by count of tomatoes in any lot to be over the specified maximum or under the specified minimum diameter. Assuming that you have specified the quality, size, color, count and weight you desire in fresh fruits and vegetables, include in the delivery inspection a

(Continued on page 75)

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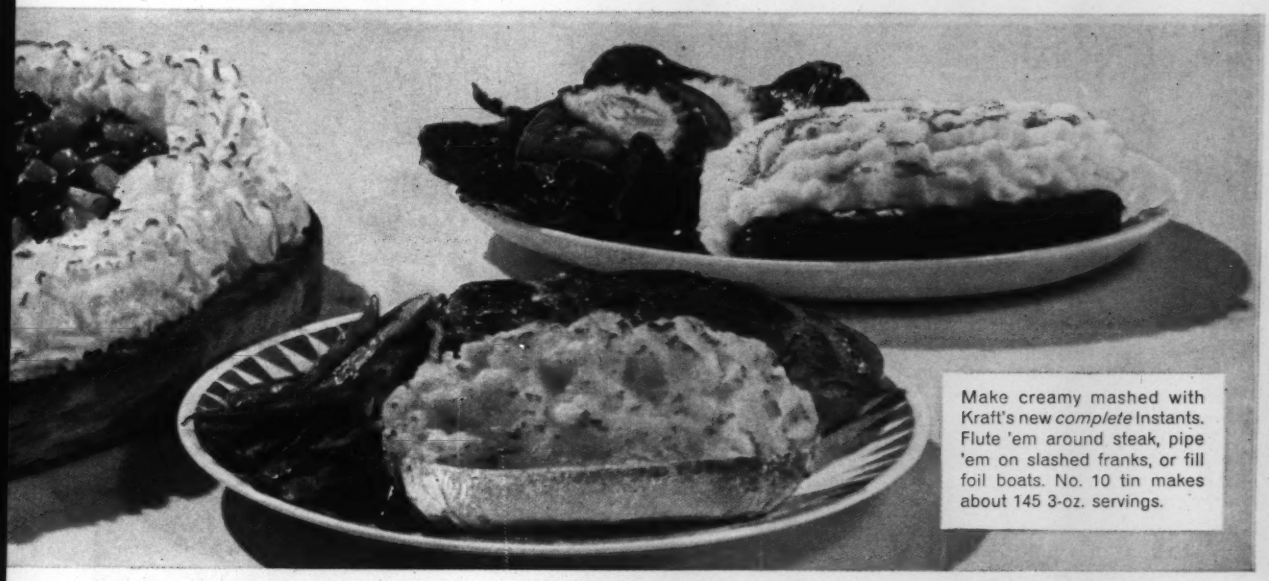

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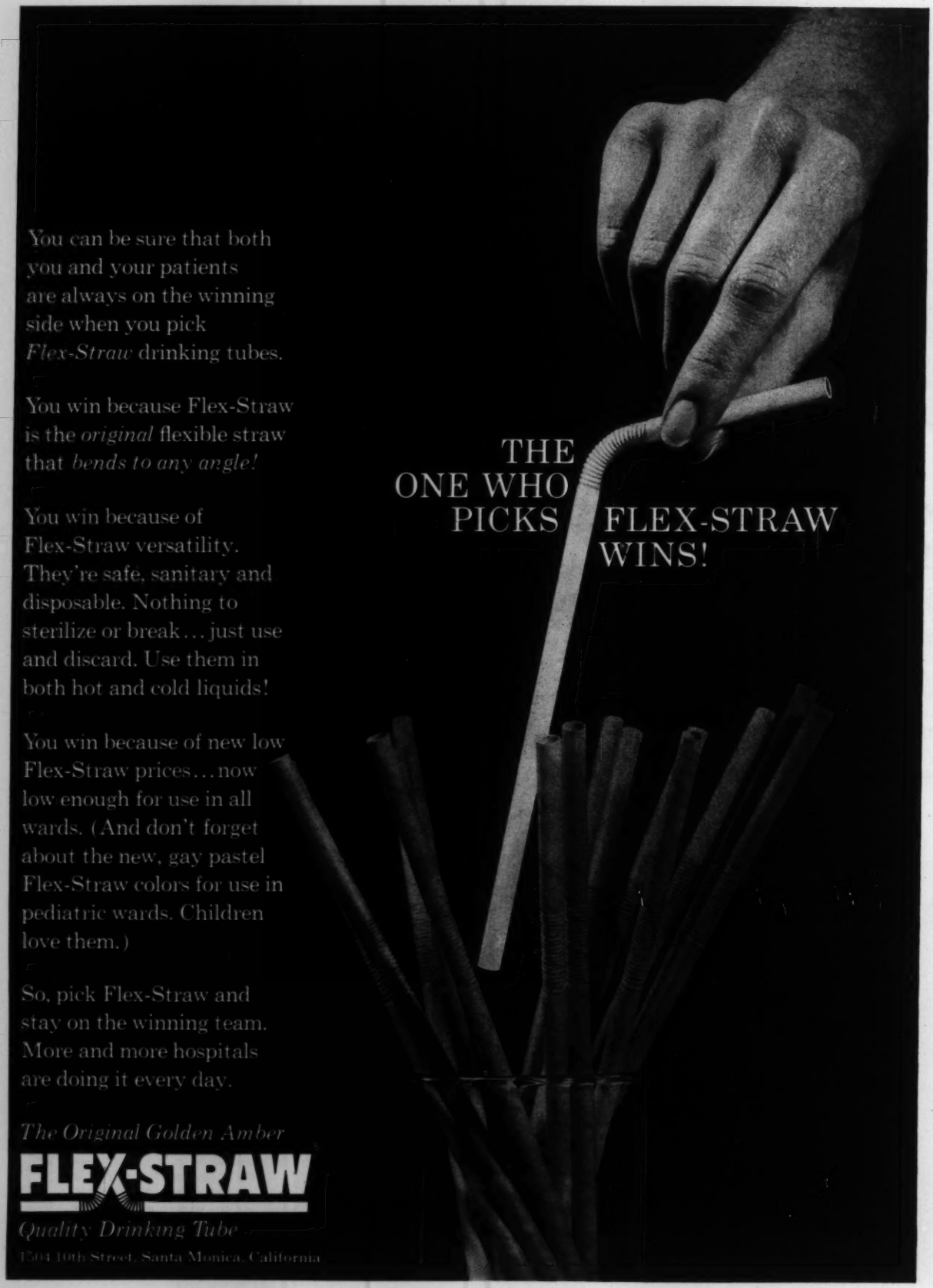
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detailed check of the following specific points.

1. Check the net weight of all items bought by weight. It is important to subtract the weight of the carton or basket from the gross weight.

2. Scrutinize the size of every item that calls for a specific size. If you have specified a minimum and maximum weight per head of cabbage, a diameter and length on cucumbers, and diameter on tomatoes, make a random sampling to determine how well they meet specifications.

3. Spot-check for actual count such items as grapefruit, oranges and pineapple that are purchased by count.

4. Inspect for color where this is a factor in the specifications. Grapes and plums may include the color specification.

5. Empty the containers of oranges, cucumbers, tomatoes, etc., in order to inspect for quality. Cut cabbage and head lettuce for solidness of heads.

6. Check leaves for insects present or look for insect damage in susceptible vegetables.

FROZEN FRUITS AND VEGETABLES

Assuming that you have ordered frozen fruits and vegetables by grade, and that your specifications have taken into account the color, appearance, evenness in size of pieces, flavor and texture, you will, upon their delivery, proceed as follows:

1. Inspect for evidence of thawing and/or refreezing.

2. Check for the type of packaging specified and the condition of the package.

3. Check the weight of individual packages. If you have specified 2½-pound packages because that is the quantity you wish to have prepared at any one time, a larger or smaller pack will not serve your purposes.

4. Spot-check frozen vegetables for foreign matter, such as pebbles and weed seeds.

5. Inspect fruits for quantity, type of container, type—whole or sliced, and sugar ratio.

When the inspections are completed, what should be done with the inferior merchandise? Generally, such merchandise should be rejected. Upon occasion you may receive fresh fruits and vegetables of a poorer quality than tolerances allow. The Department of Agriculture inspector may indicate that this is the best merchandise available. Under these circumstances, you may prefer to reject the item and arrange for a substitute.

With all the inspection described, it hardly seems possible that inferior merchandise could be found upon use. Occasionally poor quality in eggs or in fresh fruits and vegetables may be discovered at this point. When this happens, the vendor should be informed, provided proper storage techniques have been followed at the hospital. The vendor usually wants to be notified so that he is aware of the problems involved. Notifying the institution's inspectors also serves to alert them to specific problems. ■

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NOTES AND COMMENT

Crab recipes are favorites in Baltimore

In line with the traditional prominence of seafood in menus from the East Coast, recipes featuring crab are favored by patients at the Union Memorial Hospital, Baltimore, Md. Mrs. Elizabeth J. Hines, director of dietetics at this hospital, has included crab cakes and crab soup in her summer cycle menus beginning on page 77.

Mrs. Hines also recommends stuffed ham, an unusual recipe gleaned from a cookbook of Maryland dishes.

The recipes for these items are as follows:

CRAB CAKES

(160 servings)

28 lbs. crab meat
½ bunch chopped parsley
2 cans (13 oz. size) chopped pimento
1½ doz. eggs beaten but not fluffy
1 gal. mayonnaise
2 lbs. fresh bread crumbs
¼ lb. seafood seasoning
½ c. dry mustard
¼ c. paprika
Salt and pepper

1. Mix all ingredients lightly but thoroughly.

2. Use a No. 16 scoop, and form into cakes about ½ inch thick.

3. Fry cakes in deep fat. (If desired, cakes may be dipped in egg, then in either crumbs or flour before frying. This method is generally preferred in Baltimore.)

CRAB SOUP

(50 servings)

¾ lb. butter
7 medium size onions, finely chopped
5 green peppers, finely chopped
12 qts. fish broth
3 c. rice
18 peeled and diced tomatoes
3 tbsp. Worcestershire sauce
Meat from 12 large crabs (4 lbs. crab meat will do—6 lbs. is better)
5 lbs. fresh okra cut in pieces 1 inch long (or 4 qts. canned okra)
Salt, pepper, chopped parsley

1. Combine butter and finely chopped onions and green peppers.

2. Simmer slowly until done in a covered kettle.

3. Add fish broth and rice.

4. Boil slowly for 15 minutes.

5. Add tomatoes, Worcestershire sauce, crab meat and okra.

6. Cook slowly 20 minutes and season well with salt, pepper and chopped parsley.

STUFFED HAM

Hams of 12 pounds or more are best to use for "stuffed ham," a popular dish with Southern Marylanders, particularly at Easter. The ham to be used is best when less than a year old.

For a 16-pound ham use one peck of greens: cabbage sprouts, turnip greens or kale, two dozen bunches of spring onions or their equivalent in chives, red and black pepper and celery seed.

Allow 15 minutes per pound after the ham starts boiling and cook steadily until three-fourths

done. Then put aside to partly cool while the greens scald in the ham liquor. When well wilted, take greens up and chop well. Season greens with celery seed and pepper to taste.

Then with a sharp knife cut crescent-shaped openings in the ham, top and bottom, as deep as the knife will go. Stuff the mixture of greens in the incisions, as much as they will hold. Make as many incisions as the ham will conveniently take.

Fold in a stout cloth and sew fast. Replace ham in the boiling liquor for the remaining quarter of the time allowed for cooking. Cool in the liquor, and when thoroughly cold, it is ready for use. Keep cloth on the ham to preserve the moisture and keep in a cool place. It is truly a dish for the gods. —J. F. COAD, *Cheryfields Manor, St. Mary's County. From* "Eat, Drink and be Merry in Maryland" *by Frederick Philip Stieff of Baltimore. Published by G. P. Putnam's Sons, New York.* ■

Pep up bland vegetables with blue cheese sauce

One way to create flavor interest in vegetables is with a blue cheese sauce, according to the American Blue Cheese Association. This cheese sauce has been tested with asparagus, broccoli and brussels sprouts, and is suggested for use with virtually any green, yellow or white vegetable.

The recipe for this sauce follows:

BLUE CHEESE SAUCE
(25 Servings)

1 50-ounce can condensed cream of mushroom soup
1½ cups crumbled American blue cheese (about 8 ounces)
½ cup green pepper, chopped

Heat the soup. Just before serving add the crumbled blue cheese and green pepper. Use the sauce as a topping for the vegetable. ■

Summer Cycle Menu for the East

THE 21-DAY selective summer cycle menu and market orders for perishables are designed for hospitals in the East. These menus, which may be used during June, July and August, feature foods popular in the eastern section of the United States.

The menus in this issue are the third in a four-part series of summer cycle menus published in this Journal. Summer cycle menus for the Midwest and South-Southwest were included in the April 1 and 16 issues of HOSPITALS, JOURNAL OF THE AMERICAN HOSPITAL ASSOCIATION. The summer menus for hospitals in the North-Northwest will be published in the May 16 issue.

In planning the menus, careful consideration has been given to keeping the menu and food production operation simple for the smaller hospital. Moreover, a moderate to low cost food budget was used.

This cycle menu features a choice of entree, vegetable, salad and dessert on the noon and night menus. Two cereals and two fruits are offered on the breakfast menu.

Since one of the choices offered is designed for use on modified diets, these menus can be used for both normal and modified diets. The letter (F) following certain items on the menu indicates that this item is to be served on the full or normal diets, while those labeled (S) are for the soft and other modified diets. Where the letters (FS) appear, the menu item can be served on both the full and soft diets.

In adapting items marked (S) for use on modified diets, it should be noted that certain items will need sodium or fat restriction during preparation, if they are to be served on sodium restrictive or fat restrictive diets. When fruits are included on the dessert menu, the dietitian will omit sugar or substitute the water-packed variety for the diabetics.

The spring cycle menus, published in the January and February issues of this Journal, may be used during May. The Midwest and South-Southwest cycle menus were included in the January 1 and 16 issues, respectively. The February 1 and 16 issues featured cycle menus for the East and North-Northwest, respectively.

The market order for perishables, which accompanies each week's menu, lists the meats, seafood, poultry, and fresh and frozen fruits and vegetables that a 50-bed hospital will need to produce the menu. The amounts are computed on the basis of serving 100 patient and personnel meals at breakfast, 125 at noon and 100 at night. By using a multiple of 50, larger hospitals can easily arrive at their market orders.

The market order includes all portion-ready meats, oven-ready roasts, portion-ready seafood, eviscerated poultry and other prepared items.

An added feature of this menu service is the standard storeroom inventory, a list of supplies that a 50-bed hospital should have in the storeroom at the beginning of each 21-day cycle. The items included are cereals and farinaceous products, canned fish, canned fruits and fruit juices, dried fruits and vegetables, jellies, cake and pudding mixes, pickles, canned soups and canned vegetables. The standard does not attempt to include such staples as sugar, salt, pepper, coffee and tea. Dairy products should be ordered on a daily basis.

The standard is available upon request from the Association, 840 N. Lake Shore Dr., Chicago 11, Ill.

1st WEEK EAST SUMMER SELECTIVE CYCLE MENU

(MENUS TO BE USED DURING JUNE, JULY AND AUGUST)

—prepared by Mrs. Elizabeth J. Hines, director of dietetics, Union Memorial Hospital, Baltimore, Md.

	breakfast	noon	night
monday	Apricot Nectar (FS) **or** Honeydew Melon Oatmeal **or** Ready-to-Eat Rice Cereal Scrambled Eggs Crisp Bacon Toast	Tomato Juice Pot Roast of Beef (FS) with Brown Gravy (F) **or** Tuna Salad and Potato Chips Steamed Potato (S) Peas **or** Carrots (FS) Green Pepper Cole Slaw with Cream Dressing **or** Half of Spiced Peach with French Dressing Chocolate Frosted Cupcakes (FS) **or** Orange Ice	Minted Grapefruit Juice Goldenrod Eggs on Rusk (FS) **or** Toasted Sliced Chicken and Tomato Sandwich Baked Potato (FS) Buttered Asparagus (FS) **or** Celery Hearts Jellied Lime and Pear Salad with Fruit Dressing **or** Sliced Cucumbers on Lettuce with Sour Cream Vanilla Pudding with Maraschino Cherry and Whipped Cream (FS) **or** Chilled Applesauce
tuesday	Orange Juice (FS) **or** Fresh Blueberries Cooked Wheat Cereal **or** Sugared Puffed Wheat Cereal Soft Boiled Egg Honey Bran Muffins	Apple Juice Baked Ham (F) **or** Broiled Lamb Chops (S) Mashed Potatoes (FS) Chopped Spinach (FS) **or** Pickled Beets Mixed Fresh Fruit Salad with Minted Dressing **or** Lettuce Wedge with Russian Dressing Tapioca Cream (S) **or** Strawberry Shortcake with Whipped Cream (F)	Cream of Pea Soup Braised Beef Stew **or** Oven Baked Chicken (FS) Buttered Herb Noodles (FS) Green Beans (FS) **or** Seven Minute Shredded Cabbage Tomato Aspic Salad with Mayonnaise **or** Prune Stuffed with Cottage Cheese with Fruit Dressing Lemon Meringue Pie (F) **or** Apricots (S)
wednesday	Pineapple Juice (S) **or** Grapefruit Sections (F) Oatmeal **or** Corn Flakes Scrambled Eggs Crisp Bacon English Fruit Rolls	Cream of Celery Soup Turkey Fricassee **or** Broiled Beef Patties (FS) Buttered Rice (FS) Broccoli with Lemon (F) **or** Peas (S) Tomato Slices on Lettuce with Mayonnaise **or** Tossed Green Salad with Roquefort Dressing Rocky Fudge Ice Cream (FS) **or** Fresh Cherries	Spiced Apple Juice Hot Meat Loaf with Mushroom Sauce (FS) **or** Ham Salad on Lettuce Baked Potato (FS) Buttered Carrot Coins (FS) **or** Stewed Celery and Tomato Pineapple and Cream Cheese Salad with French Dressing **or** Jellied Vegetable Salad with Mayonnaise Strawberry Gelatin with Whipped Cream (FS) **or** Pear Halves
thursday	Orange Juice (S) **or** Sliced Bananas (F) Cooked Whole Wheat Cereal **or** Ready-to-Eat Rice Cereal Omelet Raisin Toast	Grapefruit Juice Hot Roast Spring Lamb (S) **or** Cold Sliced Corned Beef (F) Candied Sweet Potatoes (FS) Harvard Beets (FS) **or** Succotash Grated Carrot and Pineapple Salad with Mayonnaise **or** Lettuce Wedge with French Dressing Lady Baltimore Cake (F) **or** Raspberry Water Ice	Chicken Noodle Soup Creamed Chipped Beef (S) **or** Cottage Cheese and Fresh Fruit Salad (F) Mashed Potatoes (S) Chopped Buttered Spinach **or** Buttered Cut Green Beans (FS) Blushing Pear Salad with Chiffonade Dressing **or** Lettuce Wedge with Thousand Island Dressing Baked Custard (S) **or** Cantaloupe (F)
friday	Grapefruit Juice (FS) **or** Orange Sections Cooked Wheat Cereal **or** Puffed Wheat Cereal Scrambled Eggs Crisp Bacon Banana Muffins	Pineapple Juice Crab Cakes (F) **or** Baked Flounder (S) Creamed Potatoes (S) Broiled Tomato Slices (F) **or** Minted Peas (S) German Potato Salad (F) **or** Apricot Halves on Lettuce with Cream Dressing Pecan Crunch Ice Cream (F) **or** Sponge Cake with Butterscotch Sauce (S)	Cranberry Juice Baked Macaroni and Cheese with Two Bacon Strips (S) **or** Salmon Salad (F) Potato Chips (F) Buttered Asparagus Spears (FS) **or** Buttered Zucchini Squash Deviled Egg and Green Pepper Salad with Mustard Dressing **or** Jellied Mixed Fruit Salad with Chiffonade Dressing Lemon Butterfly Tarts (FS) **or** Fresh Blueberries
saturday	Orange Juice (S) **or** Stewed Prunes (F) Cooked Wheat Cereal **or** Ready-to-Eat Rice Cereal Soft Boiled Egg Toast	Frosted Grape Juice Roast Beef (FS) **or** Jellied Savory Cheese and Apricot Salad, with Potato Chips Buttered Noodles (FS) Seasoned Frenched Green Beans **or** Parslied Carrot Coins (FS) Sliced Cucumbers with French Dressing Tossed Salad with Piquant Dressing Fruited Gelatin Dessert with Whipped Cream **or** Chocolate Pudding (FS)	Crab Soup Hamburg Cake (S) on Toasted Roll with Mushroom Gravy (F) **or** Cold Sliced Baked Ham Potatoes au Gratin (FS) Julienne Beets (FS) **or** Cheddar Stuffed Celery Cole Slaw with Mustard Dressing **or** Orange and Grapefruit Section Salad with Cream Dressing Strawberry Frosted Cupcake (FS) **or** Sliced Fresh Elberta Peaches
sunday	Orange Juice (FS) **or** Fresh Plums Oatmeal **or** Ready-to-Eat Wheat Cereal Ham Omelet Toast (S) **or** Pecan Rolls (F)	Tomato Juice with Lemon Wedge Fried Chicken (F) **or** Oven Baked Chicken (S) Roast Veal Candied Sweet Potatoes (FS) Buttered Cauliflower (F) **or** Baked Cymling Squash (S) Lettuce Wedge **or** Waldorf Salad with Cream Dressing Vanilla Ice Cream with Chocolate Sauce (FS) **or** Frosted Green Grapes	Consomme, Hot or Jellied Country Steak with Gravy (F) **or** Scrambled Eggs and Cottage Cheese on Toasted Roll (S) Mashed Potatoes (FS) Buttered Peas (FS) **or** Chopped Spinach Macedoine Salad with French Dressing **or** Peach Half and Cottage Cheese with Mayonnaise Watermelon (F) **or** Lemon Gelatin with Whipped Cream (S)

(F)—Full Diet (S)—Soft Diet (FS)—Full and Soft Diet

Bread, butter and a choice of beverages are to be included with each meal.

PLEASE CUT ALONG THIS LINE

1st week market order for perishables (per 50 beds)

Item, Specifications, Amounts & No. of Servings			
BEEF			
Brisket, Corned	U. S. Good	34 lbs.	100
Chipped Beef, Dried	U. S. Good	1½ lbs.	20
Chuck-eye Roll (Boneless)	U. S. Good	27 lbs.	80
Ground Beef	U. S. Good, 5 lb. pkg.	50 lbs.	
Round (Top, Boneless)	U. S. Good	27 lbs.	80
Steaks, Cubed	U. S. Choice, 4 oz. each	15 lbs.	60
Stew	U. S. Good	5 lbs.	20
LAMB			
Chops, Loin	U. S. Choice, 6 oz. each	7 lbs.	20
Leg (B.R.T.)	U. S. Good, yearling	7 lbs.	20
PORK			
Bacon (Sliced)	24-26-1 lb.	17 lbs.	
Ham (Pullman)	Ready-to-eat	60 lbs.	180
VEAL			
Shoulder (Boneless)	U. S. Good	7 lbs.	20
FISH			
Flounder	Fillets	5 lbs.	20
POULTRY			
Fowl (Eviscerated)	Grade A, 5 lb. av.	10 lbs.	
Turkeys (Eviscerated)	Grade A, 20-24 lb. av.	20 lbs.	
Fryers (Eviscerated)	Grade A, 2½ lb. av.	113 lbs.	180
FRESH FRUITS			
Apples	Jonathan, 113s	½ box	
Bananas	Ripe	29 lbs.	
Blueberries		4 qt.	
Cantaloupe	Crate, 45s	½ crate	
Cherries, Bing	15 lb. box	1 box	
Grapes, Green	Seedless, 28 lb. box	10 lbs.	
Lemons		1 doz.	
Melon, Honeydew	Crate, 9s	4 melons	
Oranges	176s	3 doz.	
Peaches	Basket, 20s	2 baskets	
Plums, Red	Basket (4x5)	1 basket	
Watermelon	30-35 lb. av.	2 watermelons	
FRESH VEGETABLES			
Cabbage	Bag	35 lbs.	
Carrots	Topped, bag	93 lbs.	
Cauliflower	Crate, 12s	1½ crate	
Celery	Pascal, 30s	1 doz.	
Celery	White	1 doz.	
Cucumbers		17 cukes	
Lettuce	Head, 48s	1 crate	
Onions, Dry	Yellow, bag	50 lbs.	
Parsley	Bunch	1 doz.	
Pepper, Green		20 peppers	
Potatoes, Sweet	Hamper	50 lbs.	
Potatoes, White	Bag No. 1	300 lbs.	
Radishes	Bunch	1 doz.	
Squash, Patty Pan (Cymling)		5 lbs.	
Squash, Zucchini		7 lbs.	
Tomatoes	Repacked (5 x 6)	23 lbs.	
Watercress	Bunch	13 bunches	
FROZEN FRUITS			
Grapefruit Juice	Con., 32 oz. can	7 cans	
Grapefruit Sections	Fresh, chilled, gallon	3 gal.	
Orange Juice	Con., 32 oz. can	6 cans	
Orange Sections	Fresh, chilled, gallon	3 gal.	
Strawberries	Sliced, 8 lb. can, 5-1 sugar	3 cans	
FROZEN VEGETABLES			
Asparagus	Spears, 2½ lb. pkg.	20 lbs.	120
Beans, Green	Cuts, 2½ lb. pkg.	20 lbs.	120
Beans, Green	Julienne, 2½ lb. pkg.	2½ lbs.	15
Broccoli	Stems and buds 2½ lb. pkg.	15 lbs.	90
Peas	2½ lb. pkg.	2½ lbs.	15
Spinach	Chopped, 2½ lb. pkg.	20 lbs.	120
Succotash	2½ lb. pkg.	2½ lbs.	15

THIS PAGE HAS BEEN PERFORATED FOR EASY REMOVAL

2nd WEEK EAST SUMMER SELECTIVE CYCLE MENU

(MENUS TO BE USED DURING JUNE, JULY AND AUGUST)

—prepared by Mrs. Elizabeth J. Hines, director of dietetics, Union Memorial Hospital, Baltimore, Md.

	breakfast	noon	night
monday	Grapefruit Juice (S) **or** Prunes and Orange Sections (F) Cooked Wheat Cereal **or** Shredded Whole Wheat Cereal Soft Boiled Egg Crisp Bacon Toast	Mulligatawny Soup Roast Spring Lamb (FS) **or** Open Sandwich of Bacon, Lettuce, Tomato and Meat Escalloped Potatoes (FS) Asparagus Spears (S) **or** Broccoli (F) Pickled Beet Salad with Mayonnaise **or** Lettuce with Roquefort Dressing Gingerbread with Whipped Cream (FS) **or** Lime Ice (S)	Cream of Chicken Soup Braised Beef Stew (F) **or** Toasted Egg Salad Sandwich (S) Baked Potato (FS) Fried Eggplant (F) **or** Julienne Carrots (S) Macaroni Salad **or** Pineapple and Cream Cheese Salad Whole Peeled Apricots (FS) **or** Brownies
tuesday	Orange Juice (FS) **or** Cantaloupe Oatmeal **or** Ready-to-Eat Rice Cereal Scrambled Eggs Coffee Cake	Pineapple Juice Broiled Beef Patties (S) with Mushroom Sauce **or** Chicken Salad (F) Buttered Rice (S) Baby Lima Beans (F) **or** Buttered Sliced Beets (S) Tomato Slices with French Dressing **or** Pear and Grated Cheddar Cheese with Mayonnaise Orange Layer Cake (S) **or** Fresh Fruit Cocktail	Tomato Juice with Lemon Wedge Cold Sliced Roast Beef (FS) **or** Country Salad (Ham, Cheese, Egg, Vegetables) Mashed Potatoes (FS) Frenched Green Beans (FS) **or** Minted Peas Mixed Fresh Fruit Salad with Whipped Cream **or** Shredded Lettuce with Russian Dressing Lemon Chiffon Pie (F) **or** Applesauce (S)
wednesday	Apricot Nectar (S) **or** Orange Sections (F) Cooked Whole Wheat Cereal **or** Puffed Rice Cereal Soft Boiled Egg Crisp Bacon Fruit Muffins	Frosted Grape Juice Broiled Chicken Livers and Bacon (S) **or** Crab Meat Salad (F) Mashed Potatoes (S) Chopped Buttered Spinach (S) **or** Cauliflower au Gratin (F) Tomato Stuffed with Potato Salad and Mayonnaise **or** Lettuce Wedge with French Dressing Chocolate Nut Gems (F) **or** Royal Anne Cherries in Syrup (S)	Cream of Pea Soup Lamb Stew (F) **or** Cheese Strata (S) Potato Chips (F) Buttered Asparagus Spears (FS) **or** Baked Summer Squash Jellied Spring Salad with Mayonnaise **or** Sliced Cucumbers with Sour Cream Dressing Strawberry Ice Cream (F) **or** Angel Cake (S)
thursday	Orange and Grapefruit Juice (FS) **or** Fresh Strawberries Cooked Wheat Cereal **or** Ready-to-Eat Bran Cereal Omelet Toast	Chicken Rice Soup Baked Ham (F) **or** Broiled Chicken (S) Candied Sweet Potatoes (FS) Cut Green Beans (S) **or** Stewed Tomatoes (F) Grated Carrot on Green Pepper Salad with French Dressing **or** Spiced Apple Ring Salad with Cream Dressing Raspberry Gelatin with Cream (S) **or** Pineapple Chunks (F)	Pineapple Juice Hot Roast Beef Sandwich (FS) with Gravy (F) **or** Open Bacon-Lettuce-Tomato Sandwich Baked Potato (FS) Buttered Peas (S) **or** Carrot Curls (F) Tomato Aspic Salad with Mayonnaise **or** Orange, Banana and Date Salad with Cream Dressing Green Apple Pie with Cheese (F) **or** Canned Pear Half (S)
friday	Prune Juice (S) **or** Grapefruit Sections (F) Oatmeal **or** Corn Flakes Soft Boiled Egg Crisp Bacon Muffins	Clam Chowder Baked Whitefish (FS) **or** Deviled Egg and Pickled Beet Salad Mashed Potatoes (FS) Chopped Buttered Kale (F) **or** Glazed Carrots (S) Lettuce Wedge with Piquant Dressing **or** Celery Hearts Peppermint Ice Cream **or** Peach Half (FS)	Chilled Apple Juice Cheddar Cheese Omelet (S) **or** Spaghetti with Meat Sauce and Parmesan Cheese (F) Creamed Potatoes (S) Buttered Asparagus Spears (F) **or** Cut Wax Beans (S) Lettuce Hearts with Fruit Dressing **or** Cole Slaw with Cream Dressing Vanilla Pudding with Black Raspberry Jelly (S) **or** Mixed Fresh Fruit (F)
saturday	Orange Juice (S) **or** Stewed Prunes (F) Cooked Wheat Cereal **or** Ready-to-Eat Rice Cereal Scrambled Egg English Fruit Buns	Cranberry Juice Meat Loaf with Tomato Sauce (FS) **or** Cold Sliced Turkey Delmonico Potatoes (FS) Buttered Celery and Peas (F) **or** Whole Tiny Beets in Orange Sauce (S) Sparkling Fruit Mold with Mayonnaise **or** Carrot Sticks Chocolate Frosted Cupcake (FS) **or** Chilled Honeydew Melon wth Lemon Wedge	Chicken Gumbo Soup Creamed Dried Beef on Toast Points (FS) **or** Ham Salad on Lettuce Baked Potato (FS) Corn Pudding (F) **or** Frenched Green Beans (S) Tossed Salad, French Dressing **or** Grapefruit Section and Avocado Salad with Chiffonade Dressing Fresh Peach Shortcake (F) **or** Canned Bing Cherries (S)
sunday	Orange Juice (FS) **or** Sliced Bananas Cream of Wheat **or** Ready-to-Eat Sweetened Wheat Cereal Omelet Crisp Bacon Toast	Tomato Juice Chicken Maryland with Gravy (F) **or** Individual Tenderloin Steak (S) Mashed Potatoes (FS) Buttered Yellow Summer Squash (S) **or** Baby Lima Beans (F) Shredded Lettuce with 1000 Island Dressing **or** Spiced Crab Apple Vanilla Ice Cream (S) Strawberry Sauce (F) **or** Watermelon Cubes	Jellied Consomme Egg Salad Sandwich on Toast (F) **or** Broiled Sweetbreads and Mushroom Soup on Rusks (FS) Potato Chips (F) Cream Style Corn **or** Buttered Chopped Spinach (S) Tomato Wedges with Sour Cream **or** Frozen Fruit Salad Tapioca Cream with Apple Jelly (FS) **or** Fresh Grapes

(F)—Full Diet (S)—Soft Diet (FS)—Full and Soft Diet

Bread, butter and a choice of beverages are to be included with each meal.

2nd week market order for perishables (per 50 beds)

Item, Specifications, Amounts & No. of Servings			
BEEF			
Chipped Beef, Dried	U. S. Good	4 lbs.	
Ground Beef	U. S. Good, 5 lb. pkg.	40 lbs.	
Round (Top, Boneless)	U. S. Good	40 lbs.	120
Stew	U. S. Good	15 lbs.	60
Sweetbreads	Fresh	15 lbs.	60
Tenderloin Tip	U. S. Good	10 lbs.	20
LAMB			
Leg (B.R.T.)	U. S. Good, yearling	27 lbs.	80
Stew	U. S. Good	15 lbs.	60
PORK			
Bacon (Sliced)	24-26-1 lb.	25 lbs.	
Ham (Pullman)	Ready-to-eat	44 lbs.	130
FISH			
Clams out of Shell	Gallon	2 gal.	
Whitefish (Sea)	Fillets	20 lbs.	80
POULTRY			
Fowl (Eviscerated)	Grade A, 5 lb. av.	100 lbs.	
Fryers (Eviscerated)	Grade A, 2 lb. av.	20 lbs.	20
Turkeys (Eviscerated)	Grade A, 20-24 lb. av.	20 lbs.	
Fryers (Eviscerated)	Grade A, 2½ lb. av.	62½ lbs.	100

Item, Specifications, Amounts & No. of Servings			
Livers, Chicken	1 lb. pkg.	5 lbs.	20
FRESH FRUITS			
Apples	Jonathan, 113s	10 lbs.	
Avocado	Ripe	25	
Bananas	Ripe	20 lbs.	
Cantaloupe	Crate, 45s	¼ crate	
Grapes	Seedless, 28 lb. box	¼ box	
Lemons		1 doz.	
Melon, Honeydew	Crate, 9s	7 melons	
Oranges	176s	4 doz.	
Peaches	Basket 20s	5 baskets	
Strawberries	Quarts	4 qt.	
Watermelon	30-35 lb. av.	2	
FRESH VEGETABLES			
Cabbage	Bag	14 lbs.	
Carrots	Topped, bag	60 lbs.	
Cauliflower		18 heads	
Celery	Pascal, 30s	1 doz.	
Celery	White	6 stalks	
Cucumbers		8 cukes	
Eggplant		12 lbs.	
Lettuce	Head, 48s	1 crate	
Onions, Dry	Yellow, bag	50 lbs.	
Parsley	Bunch	1 doz.	

Item, Specifications, Amounts & No. of Servings			
Pepper, Green		10 peppers	
Potatoes, Sweet	Hamper	50 lbs.	
Potatoes White	Bag No. 1	300 lbs.	
Radishes	Bunch	1 doz.	
Tomatoes	Repacked (5 x 6)	30 lbs.	
FROZEN FRUITS			
Grapefruit Juice	Con., 32 oz. can	2 cans	
Grapefruit Sections	Fresh, Chilled, Gallon	3 gal.	
Orange Sections	Fresh, Chilled, Gallon	3 gal.	
Orange Juice	Con., 32 oz. can	7 cans	
FROZEN VEGETABLES			
Asparagus	Spears, 2½ lb. pkg.	22½ lbs.	135
Beans, Green	Cuts, 2½ lb. pkg.	2½ lbs.	15
Beans, Green	Julienne, 2½ lb. pkg.	12½ lbs.	75
Beans, Lima	Small, green, 2½ lb. pkg.	30 lbs.	180
Beans, Wax	Cuts, 2½ lb. pkg.	2½ lbs.	15
Broccoli	Stems and buds 2½ lb. pkg.	15 lbs.	90
Kale	2½ lb. pkg.	15 lbs.	90
Peas	2½ lb. pkg.	20 lbs.	110
Spinach	Chopped, 2½ lb. pkg.	7½ lbs.	35
Squash, Summer	1 lb. pkg.	8 lbs.	30

PLEASE CUT ALONG THIS LINE

THIS PAGE HAS BEEN PERFORATED FOR EASY REMOVAL

3rd WEEK EAST SUMMER SELECTIVE CYCLE MENU

(MENUS TO BE USED DURING JUNE, JULY AND AUGUST)

—prepared by Mrs. Elizabeth J. Hines, director of dietetics, Union Memorial Hospital, Baltimore, Md.

PLEASE CUT ALONG THIS LINE

	breakfast	noon	night
monday	Grapefruit Juice (FS) or Orange Sections Cooked Whole Wheat Cereal or Ready-to-Eat Rice Cereal Scrambled Eggs Crisp Bacon Toast	Vegetable Soup Roast Beef (FS) or Shrimp Salad Spoon Bread (FS) Buttered Frenched Green Beans or Seasoned Peas (FS) Cucumbers in Lime Gelatin with Mayonnaise or Spiced Peaches Jelly Roll (FS) or Green Gage Plums	Cream of Pea Soup Baked Macaroni and Cheese (FS) with Bacon or Cold Cuts with Mustard Hashed Brown Potatoes Pickled Beets or Buttered Julienne Carrots (FS) Sliced Tomato and Egg Salad with Mayonnaise or Mixed Fruit Salad with Cream Dressing Brownies (F) or Pear Slices in Syrup (S)
tuesday	Orange Juice (S) or Sliced Banana (F) Oatmeal or Corn Flakes Soft Boiled Egg Blueberry Muffins	Crab Soup Chow Mein with Noodles (F) or Beef Patty (S) Baked Potato (S) Chopped Spinach (S) or Creamed Celery (F) Orange Section and Date Salad with Mayonnaise or Cole Slaw Cheese Cake (F) or Appleberry Sauce (S)	Parslied Potato Soup Toasted Chicken and Bacon Sandwiches (FS) or Baked Ham Mashed Sweet Potatoes Buttered Broccoli or Sliced Yellow Summer Squash (FS) Peeled Apricot Salad with Fruit Dressing or Shredded Lettuce with Russian Dressing Fresh Peach Shortcake with Whipped Cream (F) or Baked Custard (S)
wednesday	Tomato Juice (FS) or Grapefruit Sections Cooked Wheat Cereal or Ready-to-Eat Sweetened Wheat Cereal Scrambled Eggs Crisp Bacon Toast	Pineapple Juice Roast Spring Lamb (FS) with Mint Sauce (F) or Spanish Rice with Frankfurters Mashed Potatoes (FS) Baked Cymling Squash (FS) or Braised Celery Sliced Tomato Salad with Mayonnaise or Seafood Salad with Cream Dressing Sliced Bananas in Orange Juice (FS) or Caramel Ice Cream	Apricot Nectar Individual Chicken Pie (F) or Mushroom Omelet (S) Baked Stuffed Potato (FS) Brussels Sprouts with Lemon Butter (F) or Minted Peas (S) Pickled Julienne Beets and Siced Cucumber Salad with Russian Dressing or Tossed Green Salad with Piquant Dressing Black Raspberry Gelatin with Whipped Cream or Apple Crumb Pudding with Hard Sauce (FS)
thursday	Orange Juice (FS) or Fresh Blueberries Cooked Wheat Cereal or Ready-to-Eat Rice Cereal Soft Boiled Egg Muffins	Cream of Vegetable Soup Ham Loaf with Mushroom Sauce (FS) or Hot Sliced Chicken Escalloped Potatoes (FS) Buttered Zucchini Squash (FS) or Seven Minute Cabbage Pear and Cream Cheese Salad with Fruit Dressing or Celery Curls Honey Nut Gem Cakes (F) or Orange Tapioca with Whipped Cream (S)	Consomme (Hot or Jellied) Assorted Fruit and Herb Cottage Cheese Salad with Cream Dressing (F) or Roast Beef au Jus (S) Mashed Potatoes (S) Glazed Carrots (S) or Buttered Cauliflower (F) Red Cinnamon Apple Stuffed with Cream Cheese, Mayonnaise or Sliced Cucumbers with French Dressing Cherry Cobbler (F) or Peach Half in Syrup (S)
friday	Grapefruit Juice (S) or Stewed Prunes (F) Oatmeal or Ready-to-Eat Whole Wheat Cereal Omelet Crisp Bacon Toast	Tomato Juice Deviled Crab Meat (F) or Open Toasted Sliced Chicken Sandwich (S) Parslied Creamed Potatoes (F) Seasoned Cut Green Beans or Buttered Spinach (FS) Tomato Wedges on Lettuce with Dill Dressing or Molded Cranberry Salad with Mayonnaise Green Apple Pie and Cheese (F) or Peeled Apricots in Syrup (S)	Cream of Mushroom Soup Broiled Salmon (FS) with Butter Sauce or Cheese Ravioli Mashed Potatoes (FS) Cream Style Corn or Buttered Peas (FS) Tossed Green Salad with French Dressing or Grated Carrot and Raisin Salad with Mayonnaise Lemon Cake Pudding (FS) or Jellied Fruit with Whipped Cream
saturday	Apple Juice (FS) or Orange Sections Cooked Wheat Cereal or Ready-to-Eat Bran Cereal Scrambled Eggs English Fruit Buns	Frosted Grape Juice Beef Stew or Broiled Liver (FS) Buttered Rice (FS) Mashed Yellow Squash or Beets in Lemon Sauce (FS) Grapefruit and Orange Section Salad with French Dressing or Lettuce Wedge with Roquefort Dressing Banana Layer Cake (FS) or Fresh Fruit	Black Bean Soup with Lemon Slice Creamed Chunk Turkey on Rusks (S) or Stuffed Country Ham Slice (F) Seasoned Noodles (F) Fried Egg Plant (F) or Buttered Cut Wax Beans (S) Sliced Tomato Salad with Russian Dressing or Macedoine Salad with French Dressing Orange Chiffon Pie (F) or Applesauce (S)
sunday	Prune and Orange Juice (S) or Grapefruit Sections (F) Cooked Whole Wheat Cereal or Puffed Rice Cereal Soft Boiled Egg Crisp Bacon Toast	Minted Pineapple Juice Roast Maryland Turkey (FS) and Dressing (F) or Tomato Stuffed with Crab Meat Mashed Potatoes (FS) Buttered Julienne Carrots (FS) or Sauerkraut Cranberry Sauce and Celery Hearts (F) or Deviled Egg Slices Vanilla Ice Cream with Chocolate Sauce (FS) or Watermelon	Chilled Peach Nectar Club Sandwich (F) or Asparagus Spears on Rusk (S) with Cheese Sauce Baked Potato (S) Frenched Green Beans (S) or Buttered Cymling Squash (F) Orange Waldorf Salad with Cream Dressing or Pickled Sliced Beet Salad with Mayonnaise Strawberry Layer Cake (F) or Prune Whip with Custard Sauce (S)

(F)—Full Diet (S)—Soft Diet (FS)—Full and Soft Diet

Bread, butter and a choice of beverages are to be included with each meal.

3rd week market order for perishables (per 50 beds)

Item, Specifications, Amounts & No. of Servings			
BEEF			
Ground Beef	U. S. Good, 5 lb. pkg.	10 lbs.	
Liver	Steer, Sliced	20 lbs.	80
Round (Top, Boneless)	U. S. Good	34 lbs.	100
Stew	U. S. Good	10 lbs.	40
LAMB			
Leg (B.R.T.)	U. S. Good, yearling	27 lbs.	80
PORK			
Bacon (Sliced)	24-26-1 lb.	33 lbs.	
Ham (Pullman)	Ready-to-eat	47 lbs.	140
Sausage (Bulk)	Lean	5 lbs.	
VEAL			
Chop Suey Meat	U. S. Good	25 lbs.	100
FISH			
Salmon	Red, steaks, 5 oz. each	20 lbs.	60
POULTRY			
Fowl (Eviscerated)	Grade A, 5 lb. av.	105 lbs.	
Turkeys (Eviscerated)	Grade A, 20-24 lb. av.	50 lbs.	100
Fryers (Eviscerated)	Grade A, 2½ lb. av.	15 lbs.	20

Item, Specifications, Amounts & No. of Servings			
PREPARED MEATS			
Cold Cuts		3 lbs.	20
Frankfurters		8 lbs.	40
FRESH FRUITS			
Apples	Jonathan, 113s	½ box	
Bananas	Ripe	67 lbs.	
Blueberries		2 qt.	
Lemons		1 doz.	
Oranges	176s	4 doz.	
Peaches	Basket, 20s	4 baskets	
Strawberries	Quarts	1 qt.	
Watermelon	30-35 lb. av.	35 lbs.	
FRESH VEGETABLES			
Cabbage	Bag	20 lbs.	
Carrots	Topped, bag	60 lbs.	
Cauliflower	Crate, 12s	1 crate	
Celery	Pascal, 30s	3 doz.	
Celery	White	1 doz.	
Cucumbers		22 cukes	
Eggplant		7	
Lettuce	Head, 48s	1 crate	
Onions, Dry	Yellow, bag	50 lbs.	

Item, Specifications, Amounts & No. of Servings			
Parsley	Bunch	1 doz.	
Potatoes, Sweet	Hamper	50 lbs.	
Potatoes, White	Bag No. 1	300 lbs.	
Radishes	Bunch	1 doz.	
Romaine		6 heads	
Squash, Patty Pan (Cymling)		45 lbs.	
Squash, Summer, Yellow		15 lbs.	
Squash, Zucchini		27 lbs.	
Tomatoes	Repacked (5 x 6)	33 lbs.	
FROZEN FRUITS			
Grapefruit Juice	Con., 32 oz. can	3 cans	
Grapefruit Sections	Fresh, chilled, gallon	3 gal.	
Orange Juice	Con., 32 oz. can	5 cans	
Orange Sections	Fresh, chilled, gallon	4 gal.	
FROZEN VEGETABLES			
Beans, Green	Cuts, 2½ lb. pkg.	2½ lbs.	15
Beans, Green	Julienne, 2½ lb. pkg.	5 lbs.	30
Beans, Wax	Cuts, 2½ lb. pkg.	2½ lbs.	15
Broccoli	Stems and buds 2½ lb. pkg.	2½ lbs.	15
Brussels Sprouts	2½ lb. pkg.	10 lbs.	60
Spinach	Chopped, 2½ lb. pkg.	17½ lbs.	105
Squash, Winter	1 lb. pkg.	4 lbs.	15

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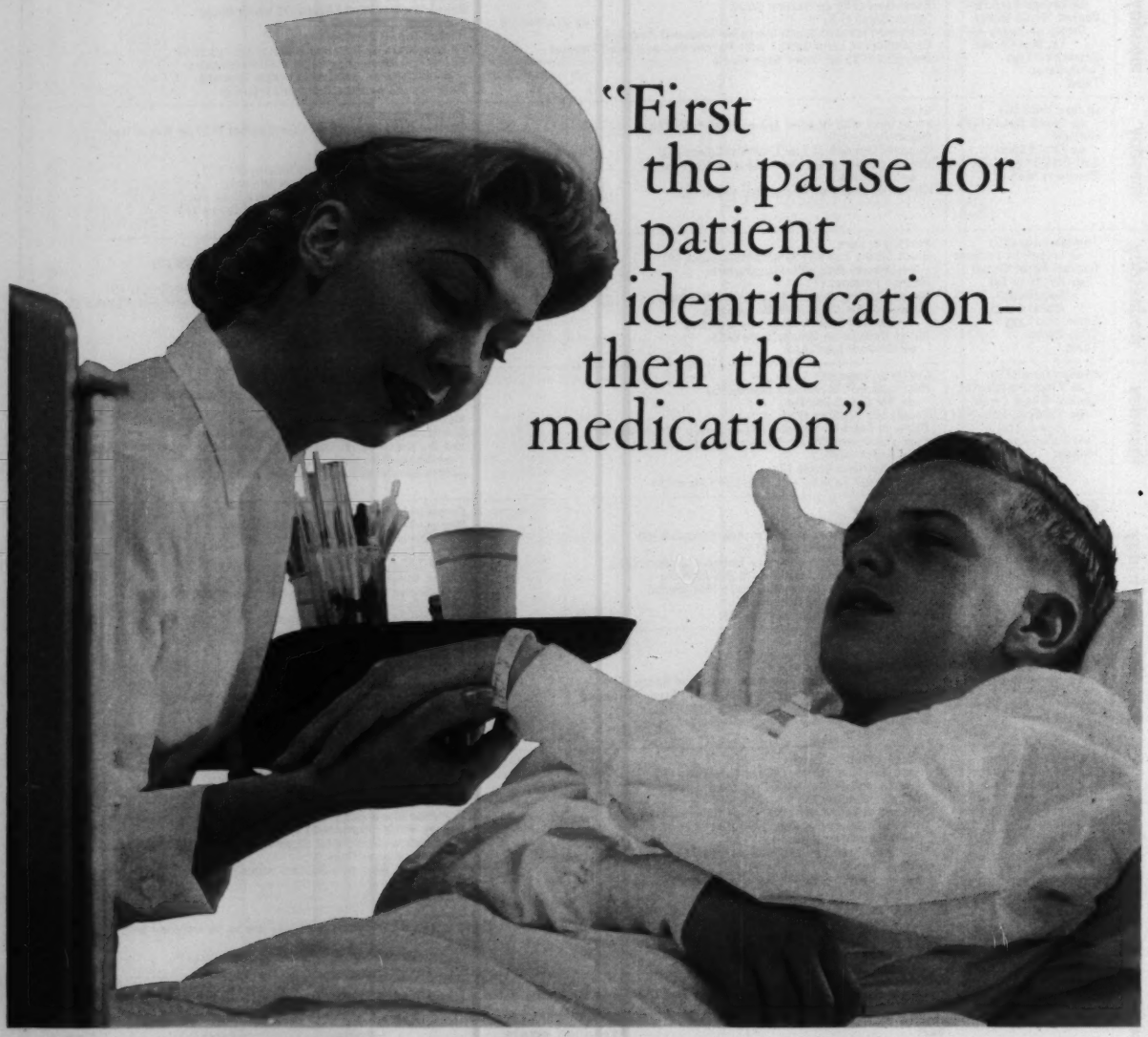

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HOW FORMS CONTROL CAN CUT PAPER WORK

by C. DWAYNE SHOEMAKER

Ordinary hospital accounting methods, according to the author, do not show office costs, especially paper work costs, accurately. He suggests that a forms control program will simplify hospital paper work and will reduce hospital office costs. The author also outlines how to establish a forms control program.

WE ARE IN a period when hospital administrators are concerned with the ever increasing number of office and clerical workers and the difficulty of employing good ones. Administrators should also be concerned with the need for gathering adequate and reliable information quickly for planning and control. Finally, administrators should be concerned about the flood of paper work in their hospitals, and what to do about it. This includes deciding how far to go with office automation and electronics.

Someone has said that the first step in solving a problem is to recognize what the problem really is and to state it clearly. That may be one reason the problem of the control of office costs in the hospital field is acute. Costs of office operations in hospitals would astonish many hospital administrators, if these administrators knew what they were.

HIDDEN OFFICE COSTS

Probably no hospital keeps track of office costs as a separate category in its accounting system. By traditional accounting practices, a large portion of office costs is buried. For example, how much of the nursing expense in a hospital is actually office and clerical expense? A complete accounting of all office expenses would produce a surprisingly large figure in most hospitals.

Despite the advent of electronics and automation in the business office, hospitals generally do not know (1) how much it costs to perform various office operations; (2) how much a given procedure costs, or (3) how much might be saved by a better method.

Because most hospital personnel at some time in their daily routine become involved with clerical operations or office procedures, forms enter the picture, since they are basic clerical tools. Behind every form used is an office procedure or clerical operation, so forms become the common denominator of efficient clerical function. Therefore, it is important to design efficient forms that are needed in the operation of a hospital. Well designed forms will reduce expense for the hospital.

One good approach to the hospital office expense and paper work problem is through forms control. Forms control is an organized method permitting the administration to control the cost of clerical operations by controlling the paper work which helps generate these costs.

One of the main objectives of forms control is to eliminate unnecessary paper work. Equally important is the creation of efficiently designed forms necessary to hospital operation, and the elimination of unnecessary forms.

USE COST OF FORMS

The true cost of forms can be measured only by their relation to the amount of money paid to the people who use those forms. More specifically, each time an average form is used, someone picks it up, writes information on it and sends it to someone else who picks it up, reads the information, possibly makes a computation or checks a figure, makes a decision or starts some further action, files it and possibly withdraws it at a later date for further reference. Assume that all this takes only 20 minutes. Experience shows that the average

C. Dwayne Shoemaker was administrator, Carmi Township Hospital, Carmi, Ill., at the time this article was prepared.

HOW TO DESIGN A FORM

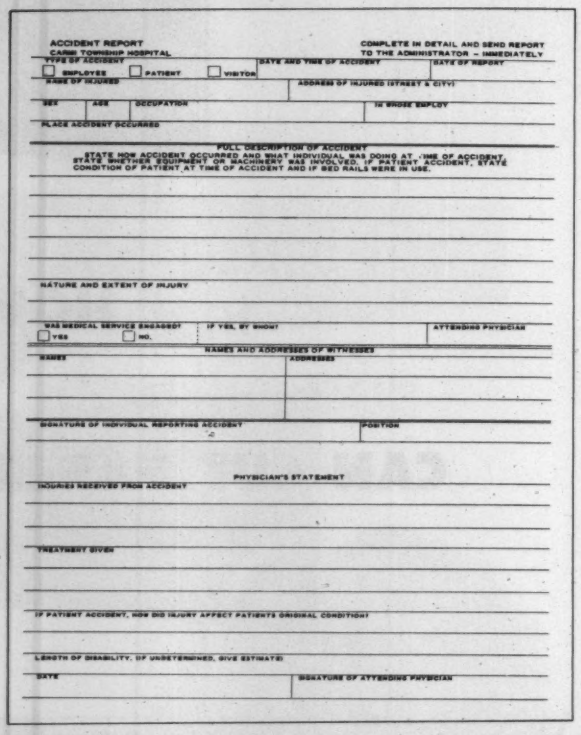
Box Design Principle—Writing lines should be divided into boxes with captions printed in small type in the upper left-hand corners. This frees the entire length of the writing line for written data. It also eliminates time-consuming positioning of the typewriter carriage. The variable data become predominant; the constant data are recessed. Horizontal and vertical space on forms is generally reduced.

Ballot Box Principle—Ballot boxes (☐) should be used for fixed or single-word answers. This saves writing and interpretation time. There is less chance for error and smaller forms can be used.

Placement of Data—The arrangement, sequence and zoning of information into box captions should be determined by (1) the logical flow of data; (2) the layouts of the source documents from which the information is taken, and (3) the requirements of the forms that will be prepared from this form.

Placement of Title—Each form should bear a brief and precise title which identifies the subject and function of the form. The form title should be printed in the upper left-hand corner of the form in capital letters in a condensed type face. When filing methods, binding processes of space problems, etc., warrant, the form title may be placed on the lower left-hand corner of the form or in the left-hand lower or upper margin.

Spacing Principle—Always allow sufficient space for entry of data. Horizontal spacing for handwritten data should allow ⅛ to ¼ inch per numeral or character according to the nature of the work. Typewritten data should allow 12 digits, spaces or characters per inch for elite type, and should allow 10 digits, spaces or characters per inch for pica type. Special spacing should allow space in accordance with the mechanical requirements of the particular bookkeeping or tabulating machine used. Vertical spacing for handwritten data should allow spaces of 1/3 inch each; typewritten data with single spacing, 1/6 inch each, and double spacing, 1/3 inch each; combination, both handwritten and typewritten, 1/3 inch each.


ACCIDENT REPORT
CARMI TOWNSHIP HOSPITAL

COMPLETE IN DETAIL AND SEND REPORT TO THE ADMINISTRATOR – IMMEDIATELY

TYPE OF ACCIDENT
☐ EMPLOYEE ☐ PATIENT ☐ VISITOR

DATE AND TIME OF ACCIDENT

DATE OF REPORT

NAME OF INJURED

ADDRESS OF INJURED (STREET & CITY)

SEX | AGE | OCCUPATION | IN WHOSE EMPLOY

PLACE ACCIDENT OCCURRED

FULL DESCRIPTION OF ACCIDENT
STATE HOW ACCIDENT occurred AND WHAT INDIVIDUAL WAS DOING AT TIME OF ACCIDENT. STATE WHETHER EQUIPMENT OR MACHINERY WAS INVOLVED. IF PATIENT ACCIDENT, STATE CONDITION OF PATIENT AT TIME OF ACCIDENT AND IF BED RAILS WERE IN USE.

NATURE AND EXTENT OF INJURY

WAS MEDICAL SERVICE ENGAGED?
☐ YES ☐ NO.

IF YES, BY WHOM?

ATTENDING PHYSICIAN

NAMES AND ADDRESSES OF WITNESSES

NAMES | ADDRESSES

SIGNATURE OF INDIVIDUAL REPORTING ACCIDENT

POSITION

PHYSICIAN'S STATEMENT

INJURIES RECEIVED FROM ACCIDENT

TREATMENT GIVEN

IF PATIENT ACCIDENT, HOW DID INJURY AFFECT PATIENT'S ORIGINAL CONDITION?

LENGTH OF DISABILITY. IF UNDETERMINED, GIVE ESTIMATE:

DATE

SIGNATURE OF ATTENDING PHYSICIAN

TYPICAL of forms currently in use at Carmi Township Hospital is this accident report form, which embodies the form design principles discussed in the accompanying paragraphs.

Margins—Allow a minimum of ¼ inch margin on all sides of forms printed by offset or multilith processes to allow for gripping action of the printing press.

Allow minimum of ⅝ inch on binding side of forms to be filed in ring binders.

Allow from minimum of 1½ inches to maximum of 2½ inches margin on the binding side of forms to be filed in post binders.

Allow 1 to 1¼ inches, depending on the contents, for forms to go into binding fasteners.

Allow a minimum of 2/3 inch on binding side of forms to be filed in press binders.

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form is used under average conditions in a quantity of approximately 2000 copies annually. The actions listed will take 40,000 minutes per form per year or 666 payroll hours.

If the average rate of pay per hour for all personnel working on the form is $2 per hour—remember that many forms go to department heads or professional and administrative personnel—the average form costs the hospital $1332 per year in payroll expense. This figure does not include the purchase or printing cost of the form itself.

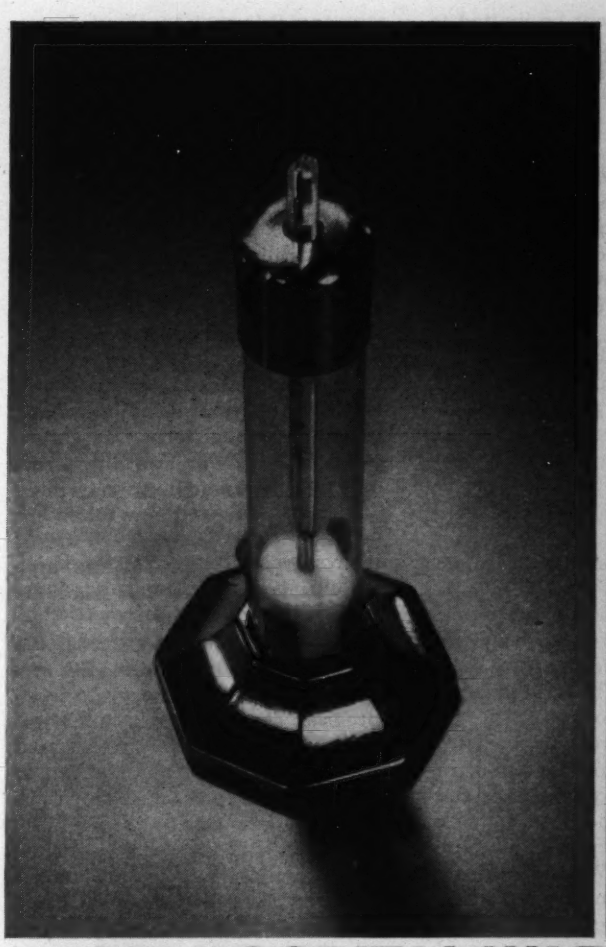
A forms control program is a necessity in any paper work and cost control program in the business office, but the mistake should not be made of thinking that control over only the principal forms constitutes forms control. Neither should it be thought that even a complete forms control will solve the procedures and methods problems, for it will not.

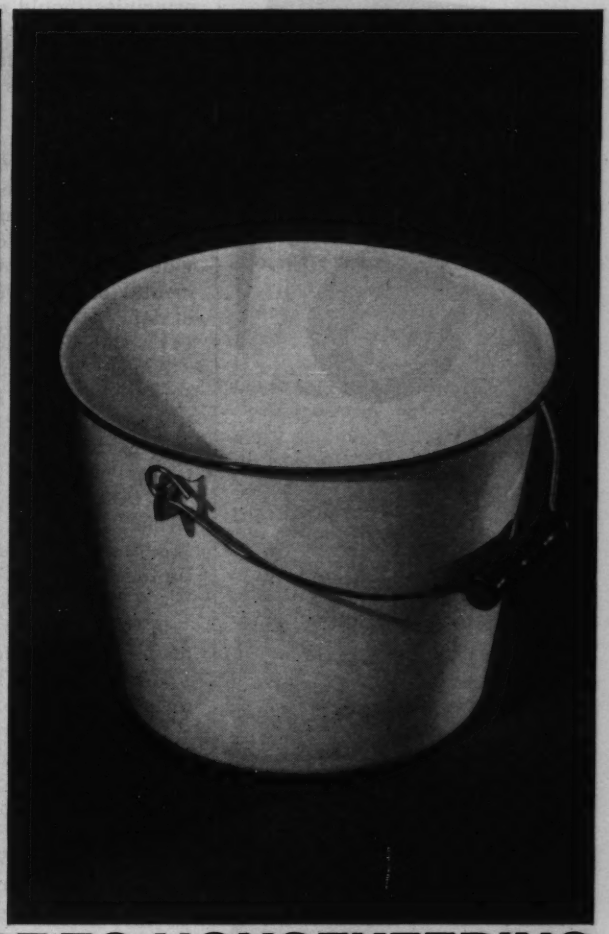
Nor will a study of the major procedures of the hospital bring about control over all the hospital's forms. Experience shows that years of work on procedures can still leave a very large segment of the total forms of the hospital uncontrolled, and only a complete forms program will bring them within that control.

TOTAL PROGRAM REQUIRED

The essential point to remember is that a forms control program, necessary as it is, is only part of an integrated program of control over paperwork and office costs. Other aspects of an integrated program include methods and procedures studies, clerical work measurement, work simplification, office automation and records control.

The application of forms control





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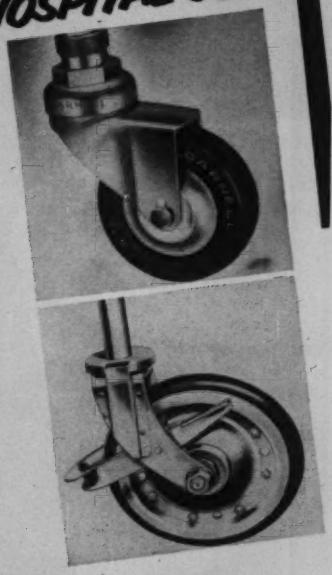

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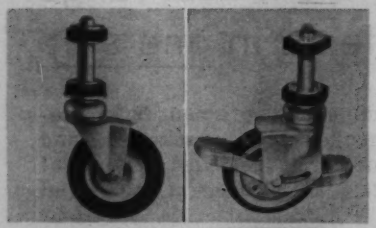

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principles should not be limited to the high usage forms. There are literally hundreds of forms for clerical functions which require only a few sheets of paper a year. Even those forms, although used in only one clerical operation by one individual, can be of value to the hospital when properly designed.

Correct forms design will provide these basic factors: (1) better mental attitude, (2) easier entry of data, (3) easier use of data, and (4) reduced chance for error.

Among the results that can be expected from a good forms control program are:

1. Elimination of duplication of clerical effort.
2. Elimination of unnecessary clerical effort.
3. Standardization of clerical activities.
4. Control of clerical activities.
5. Improvement in the efficiency of the necessary forms used.
6. Reduction of the cost of printing and distribution.

No forms control can be effective unless forms production on office duplicating equipment is controlled, because there is a factor of opportunism in the use of duplicating machines. Whatever kind of machine is at hand, that machine is used to produce forms, whether it be a mimeograph, hectograph, multilith or photocopy machine.

ASSIGNING PROGRAM RESPONSIBILITY

To initiate a forms control program, one fact, which is always present, should be understood: Effective forms control with resulting paper work simplification will never originate at the bottom and move to the top. The initial impetus must come from the top and permeate downward. The hospital administrator's responsibility is to decide to adopt a forms control program and to provide a management climate, or framework, within which it will operate.

One individual must be given the responsibility of the forms control program. The duties of this individual will be to review, discuss and pass upon all requests for new forms or revisions to existing forms. He must have some knowledge of the forms in use throughout the hospital and in all instances, he should be in a position to obtain any information about forms which he himself does not possess. This person should have a definite interest in forms and the forms control program, and also should be given time to carry out his responsibilities.

The first step in a forms control program is collecting a sample of every form in the hospital, including all small-usage, unnumbered and office-duplicated forms. This collection usually discloses from 50 to 100 per cent more forms than anyone in management knows about. No attempt should be made when collecting forms to gather information about how the forms are used. It it enough to determine who used them and how many are used annually. The detailed use of the form should be covered in a later study of paper work simplification.

After collecting the forms, the individual charged with the responsibility of the forms control program should build a numerical work file of all the forms used throughout the hospital. Then, a review of the forms to justify their existence should be made. The originator and the recipient of the form should be questioned about the need and use of the form. Then a decision can be reached about whether the form is necessary and really useful.

The final decision will be to do one or more of the following:

1. Eliminate the form entirely.
2. Reduce the amount of information asked for.
3. Reduce the number of copies and recipients of copies.
4. Reduce the frequency of issue of the form.
5. Redesign the form for greater efficiency in use.
6. Keep the form exactly as is.

RESULTS OF FORMS REVIEW

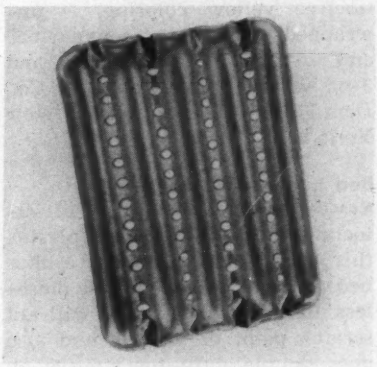
Such a review of all the forms used in the hospital could very well completely eliminate 10 to 20 per cent of all the forms. It could also reduce for many others the amount of information, frequency of issue or number of copies formerly called for.

A side benefit of such a review would be the greatly increased consciousness throughout the hos-

(Continued on page 111)

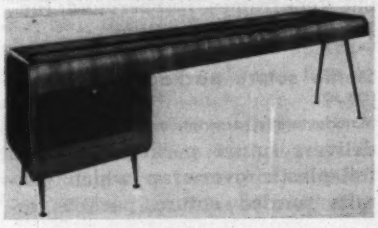
New product descriptions included in this section are condensed from reports furnished by manufacturers and distributors. Descriptions are included here for informational purposes and such inclusion does not constitute endorsement by the American Hospital Association.

Wheel chair cushion (9F-1)
Manufacturer's description: This inflatable cushion overcomes many of the disadvantages of porous air-foam and sponge-rubber cushions. Constructed of durable vinyl plastic, the cushion is nonabsorbent, easily washed or disinfected and



ready for immediate reuse. Suspension on this low pressure air cushion reduces pressure points. Because of its unique construction, it will not mat or pack down from perspiration or other moisture. *Howard Sales Co., Dept. H9, P.O. Box 5113, Pasadena, Calif.*

Console-conveyor (9F-2)
Manufacturer's description: This console conveyor can be adapted to any soiled dish handling application or hospital make-up counter facility. The entire unit is constructed of stainless steel and the end drum

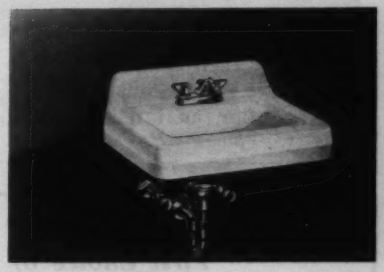


rollers are equipped with heavy duty machined nylon bearings. The conveyor is also equipped with a safety switch which stops the belt automatically. *The John Van Range Co., Dept. H9, Cincinnati, Ohio.*

Overbed table (9F-3)
Manufacturer's description: Practical and functional for hospital patients,

this all-chrome, overbed table contains a hidden vanity that may be used without loss of space. Adjustable in height from 30 to 54½ in., it can be used on either side of hospital beds, including multiple-height beds. The mirrored vanity snaps into place, cannot be dropped and also serves as a book rest. A three-suspension base provides table footing, maintains table rigidity and the large, plastic laminate tops are scratch resistant, impervious to boiling water, chemicals or cigarette burns. *American Hospital Supply Corp., Dept. H9, 2020 Ridge Ave., Evanston, Ill.*

Lavatory unit (9F-4)
Manufacturer's description: Available in eight colors—white, jade, yellow, pink, tan, blue, grey and turquoise—and designed as a space saver, this porcelain-enameled, cast-iron lavatory unit features the styling of a low 3½-in. back with tapered ends, a spacious 20 x 18 in. rectangular basin with front overflow, a convenient soap depression lo-



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PRODUCT NEWS

_____Wheel chair cushion (9F-1)
_____Console-conveyor (9F-2)
_____Overbed table (9F-3)
_____Lavatory unit (9F-4)
_____Throat culture kit (9F-5)
_____Printed diet cards (9F-6)
_____Deodorant soap (9F-7)
_____Bed and cart basket (9F-8)
_____Sterile suture packaging system (9F-9)
_____Flaked ice machine (9F-10)
_____Wall-inset cabinet (9F-11)
_____Magnetic sweeper (9F-12)
_____Hospital mirrors (9F-13)

PRODUCT LITERATURE

_____Hot food table catalogues (9FL-1)
_____Draperies (9FL-2)
_____Folding furniture catalogue (9FL-3)
_____Boiler manual (9FL-4)
_____Hospital lighting guide (9FL-5)
_____Inhalation anesthetic agent (9FL-6)
_____Home care of incontinents (9FL-7)

NAME and TITLE_____

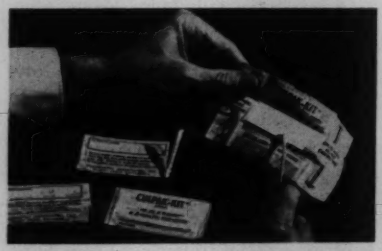
HOSPITAL_____

ADDRESS_____

(Please type or print in pencil)

cated on the left-hand side and provides a 3-in. apron front. Available in either 4-in. or 8-in. drilling, the lavatory is furnished with concealed bar hanger for wall hanging or chair carrier mounting and is designed for use with chromium plated leg supports, if desired. *Crane Co., Dept. H9, Johnstown, Pa.*

Throat culture kit (9F-5)
Manufacturer's description: A diagnostic aid for detecting streptococcal in-



fections is now packaged in a sterile kit. This aid provides a method of recovering certain types of bacteria from throat cultures. These cultures are then studied to detect the presence of the causative bacterial agent in an infection. The kit contains two packages—one, a plastic pouch with a built-in zipper type string; the other, a strip of plastic-coated pouch paper which protects the filter-paper upon which the throat culture is to be placed from contamination. *The Dobeckmun Co., Dept. H9, P. O. Box 6417, Cleveland 1.*

Printed diet cards (9F-6)
Manufacturer's description: A line of attractive 3 x 6 in. preprinted and color-coded diet cards, designed for one-time use as a guard against cross infection, stand upright on food trays without need for holders. Furnished flat, they are available with 15 different headings.

Each card is printed in a special color to designate the type of diet and has a space for writing in patient's name and room number. *Will Ross, Inc., Dept. H9, Milwaukee 12, Wis.*

Deodorant soap (9F-7)
Manufacturer's description: Designed for use in hospitals, this deodorant soap provides antibacterial as

well as cleansing action. It aids in reducing skin bacteria, eliminates offensive odors, is mild and has a pleasant scent. The soap has a distinctive yellow coloring, is unwrapped for greater convenience and is available in one, 1½ and 3-oz. cakes. *Colgate-Palmolive Co., Dept. H9, 300 Park Ave., New York 22.*

Bed and cart basket (9F-8)
Manufacturer's description: Made of autoclavable grey or beige plastic, this waste basket clips to either bed frame or wheel chair, is noiseless, dent and rust-proof, will not scratch paint or varnish and also does double duty for storage on

beds, wheel chairs, carts or counters. The container is 4¾ x 10 x 7¾ in. high and provides two clips for mounting on either tubular or flat steel frames. *Rubbermaid, Inc., Dept. H9, Wooster, Ohio.*

Sterile suture packaging system (9F-9)
Manufacturer's description: This system delivers suture packets dry in a foil-plastic overwrap which permits unused suture packets re-

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moved from the overwrap to be placed in sterilizing solution or they may also be returned to the manufacturer for resterilizing and repackaging. No instruments are necessary for opening the packet or removing the suture and a complete line of sutures is available including standard tubes, precut sterile lengths and needle suture combinations. *Ethicon, Inc., Dept. H9, Somerville, N.J.*

Flaked ice machine (9F-10)
Manufacturer's description: This is a self-contained machine which has been modified to facilitate the installa-

tion of drink dispensers, carbonator pumps and accessories. Features include: removable front panel for carbonator pump and accessory installation; relocated bin and relay thermostat controls, which allow adjustment for all climatic conditions, and a recessed on and off switch. *Ross Temp, Inc., Dept. H9, 1805 S. 55th Ave., Chicago 50.*

Wall-inset cabinet (9F-11)
Manufacturer's description: Intended for hospital use, this stainless steel trimmed, white enameled instrument and drug cabinet has a round-cornered, one-piece, deep-drawn body with a false cover that enables it to be used as a wall-hanging or inset-type cabinet. The 25⅝ x 18 x 5 in. cabinet also

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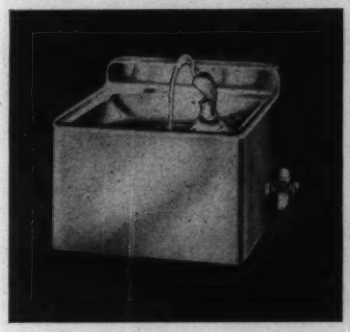

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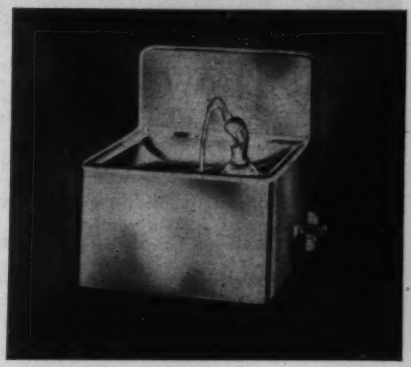

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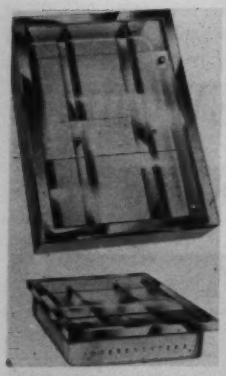
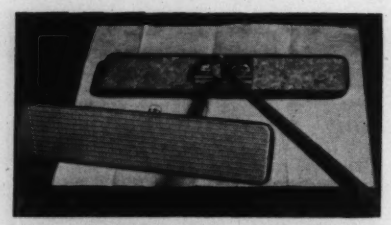
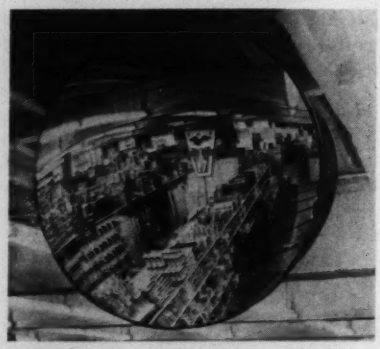


features plate glass doors mounted on nylon glides, which operate in channels, two round-edge, aluminum shelves fastened to adjustable brackets, plus inlaid aluminum door pulls. *Duxe Products, Dept. H9, P.O. Box 1192, Cincinnati 1.*

Magnetic sweeper (9F-12)
Manufacturer's description: Utilizing disposable, nonwoven cleaning cloths, this sweeper requires no mechanical means for fastening cloths to the sweeper. The sweeper is placed on a spread cloth, starting at the forward edge and is used until it requires a new sweeping surface; then it is moved down one width of the sweeper and is used until one side of the cloth is utilized. The cloth is then turned over and the cycle is repeated in the same manner on the other side. *Lowndes Products, Inc., Dept. H9, Philadelphia.*



Hospital mirrors (9F-13)
Manufacturer's description: Available in 36-in. circular and curved design, these mirrors, strategically placed, afford hospital personnel a complete view of an entire corridor or section of a hospital floor from any location. *Norman Industries, Inc., Dept. H9, 814 W. Diversey, Chicago 14.*



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product literature

SEE COUPON PAGE 85

Hot food table catalogues **(9FL-1)**—These two illustrated catalogues describe a line of hot food tables that are gas and electric operated and U.L. approved. Offering complete specifications on all models including portable units, the tables illustrated in the catalogues are converted from wet to dry heat by use of a pan that utilizes this method of wet-dry control. Other features include interchangeable top panels that will receive any combination of round pots and/or square pans. *Star Metal Corp., Trenton Ave. & Ann St., Philadelphia 34.*

(Continued on page 89)

Draperies (9FL-2)—This catalogue, which shows 72 drapery designs and describes contract drapery service, features illustrations of installations in buildings all over the U.S. Among the designs shown in the book are five original designs, an introduction to three fireproof and color-fast fabrics, a description of designing in workroom services and some examples of custom designs created for purchasers to reflect their background, business, name, personality or some other individualizing characteristic. *Edwin Raphael Co., Inc., Holland, Mich.*

Folding furniture catalogue (9FL-3)—This 16-page catalogue describing folding tables, chairs and trucks for institutional use provides a description of each product's physical dimensions, shipping and handling weights, including specifications for square and pedestal leg oblong folding tables. The catalogue also contains technical descriptions of construction features and materials used, such as table tops, protective trim moldings and finishes, plus a section on how to select the right table truck to meet each individual problem. *Howe Folding Furniture, Inc., 1 Park Ave., New York 16.*

Boiler manual (9FL-4)—An eight-page, two-color, 8½ x 11 in. bulletin describing boilers for low pressure heating of public, commercial and industrial buildings is now available. This bulletin includes tabulated data on ratings and dimensions of boilers which are available in 16 sizes ranging in capacity from 1,392,000 to 15,430,000 BTUS SBI rating and which are designed to develop 141.5 per cent of this rating. In addition, the bulletin offers typical specifications and a full selection of available heating coils and induced draft fans. *American-Standard, Ind. Div., Detroit 32.*

Hospital lighting guide (9FL-5)—Recommended lighting levels for 112 specific areas in the hospital, including patient care, public, traffic, administrative and service areas, are incorporated in this 24-page booklet, which also contains illustrations of well designed hospital lighting installations, a breakdown of various types of lighting equipment available and suggested lighting layouts. *Day-Brite Lighting, Inc., Dept. H9, 6260 N. Broadway, St. Louis 15.*

Inhalation anesthetic agent (9FL-6)—A brochure fully describing the properties of this anesthetic, including six case discussions is now available. These contain composite data on typical applications of the anesthetic for different types of surgery and utilizing various anesthesia techniques. *Ohio Chemical and Surgical Equip. Co., Dept. H9, 1400 E. Washington Ave., Madison 10, Wis.*

Home care of incontinents (9FL-7)—Designed to facilitate instruction of the home nurse, this 24-page, illustrated booklet was written by a registered nurse for the nonprofessional nurse in clear, simple terms. It defines the problems and outlines the nursing needs of the incontinent patient. *Chicopee Mills, Inc., Prof. Products Div., Dept. H9, 47 Worth St., New York 13.*

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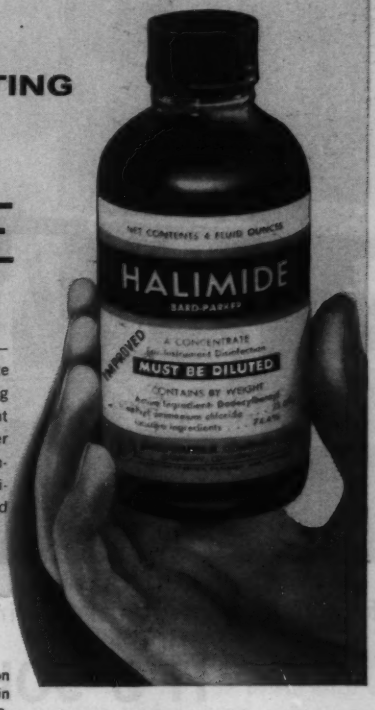

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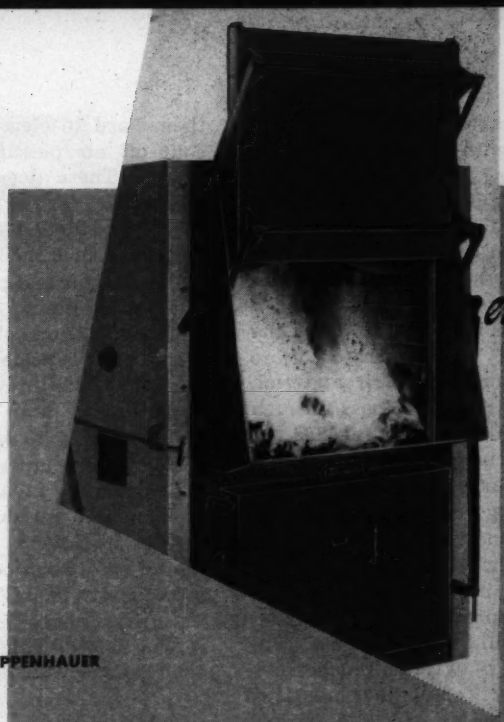

engineering and maintenance

INCINERATION OF HOSPITAL WASTES

by ORVILLE E. KOPPENHAUER

ONE OF the big problems facing municipalities and institutions today is disposal of wastes. Waste refuse includes rubbish, garbage, animal and partial human remains and industrial by-products. A hospital must dispose of rubbish and remains in an incinerator. Garbage disposal and sewerage treatment plants have become operations to protect health.

By-products are problems of manufacturing plants, with each plant having its own problems. Noncombustibles are at present used as fill, but these will become a problem as the population continues to grow. Some cities today wonder where their next refuse dumps will be located. Combustibles are one part of the disposal problems faced by city governments, industries and institutions.

Although few cities have public incinerators, private and industrial incinerators help create smoke problems. Incinerators, however, are needed to dispose of large quantities of waste material collected daily. It is with incinerators of this type that the hospital engineer is concerned.

Orville E. Koppenhauer is buildings and grounds superintendent, University of Colorado Medical Center, Denver.

Waste disposal has become a real problem for hospitals, according to the author. Because some hospital wastes are difficult to dispose of properly, he suggests that proper incineration practices are a safe and effective method of disposal.

The incinerator location usually is selected by architects or planners with the following factors in mind: (1) flow of material to incinerators; (2) ashes out; (3) gases out, and (4) air supply for combustion. In the past, the incinerator usually was located in some dark corner, the basement or the end of a passageway. City smoke abatement legislation is gradually forcing incinerators into more favorable locations, because it must burn to ash everything thrown into it without smoke, bad odors, fumes, fly-ash, embers or sparks. An incinerator must be carefully designed and operated or it will not function properly.

What an incinerator will be required to consume must be given consideration when it is in the design stage. How much dry refuse, wet refuse and pathological waste it must dispose of should be considered. Will the wet refuse need a dry shelf or an auxiliary fire? Should the institution have an iron grate, solid hearth, step-grate, drying shelf, auger feed, auxiliary fire, or will one of these combinations be best to meet the requirements? Will a prefabricated or custom-built incinerator be the answer?

THE DRYING SHELF

Wet or saturated material dumped directly on a burning fire tends to smother it or block air passage for combustion. To overcome this, a ledge or shelf is constructed to hold this material in the path of combustion gases and flames to dry it. This is known as a drying shelf. It can be constructed of iron or brick with air passing under, over and through this shelf. After this material is sufficiently dry, it is raked down to the burning grate. The drying shelf has its own charging door above it, but usually the raking is done from a side door, which extends the width of the incinerator and is about two feet above the grade of the main grate, but adjacent to it.

A solid hearth incinerator is built without air passages through the grate or floor, but with gas passages under the floor. It can have turned up edges at the front, back and sides. In operation, the floor is heated to approximately 1800° F. and then the load dumped

in. Next air is injected and then heat from the floor ignites the load and it is consumed. This type of incinerator is used for disposal of large animals and waste products, such as paraffin, grease, etc., that might melt and run out on the floor of an incinerator room, and endanger the entire structure.

A series of shelves built up from the main grate exactly like stair steps without risers is called a step grate. Each step acts as a drying shelf. As the load is dumped in from above, the material is turned several times as it works to the bottom grate. Since the step grate is situated across the incinerator between the firing grate and combustion chamber, it holds material loosely in the hot gas passage, so it can be dried out very rapidly.

An auger feed is a mechanical rotating auger that pushes the material from the charging chute into the furnace chamber for burning. This operation has the advantage of stirring the refuse mechanically which keeps it loose and well exposed to the air where it can burn readily.

An auxiliary fire is a gas or oil burner whose flames play directly on the refuse to aid in drying or keeping it ignited.

THE COMBUSTION PROCESS

Grate size and draft are two factors that must be in balance. Complete combustion is to be given preference over economical combustion. A coal-fired boiler will generally operate with 50 per cent excess air or 12 per cent CO_2 in the flue gas. In incineration, furnace temperature is controlled by excess air. The furnace should use 100 per cent to 150 per cent excess air, with 6 to 9 per cent CO_2 The moisture content of the load tends to cool the furnace. Forty pounds of waste material per square foot of grate area per hour is a rule of thumb for 400-pounds-per-hour-capacity incinerators. This applies to iron-grate classification. Solid hearth or drying-shelf operation might drop off to as little as four pounds per square foot per hour.

Air is composed of approximately 21 per cent oxygen and 79 per cent nitrogen, ignoring the small .6 per cent of all the other gases in air. When perfect combustion is achieved, each molecule of oxygen combines with a molecule of carbon to form CO_2, or with hydrogen to form H_2O, or with sulfur to form SO_2. To get perfect combustion is impossible, as some O_2 will go through the incinerator without finding a molecule of C, H, or S with which to combine. Since the purpose of an incinerator is to consume completely all material, more O_2 will have to pass through the incinerator than is needed for "perfect" combustion. This extra oxygen is excess.

Note the difference between "perfect" and "complete" combustion. If perfect combustion were attainable and the flue gas volume were measured, the 21 per cent oxygen would now be 21 per cent CO_2. Now, if twice as much air is used to get complete combustion and then the flue gas is analyzed, there would be 10.5 per cent CO_2 and 10.5 per cent O_2 in the flue gas by volume. This analysis shows twice as much air passed through the incinerator as was needed for perfect combustion.

The analyzed flue gas CO_2 per cent tells the engineer just how much air is passing through a furnace. Each oxygen molecule that went through the incinerator took with it four molecules of nitrogen. The nitrogen neither aided nor hindered combustion, but it did absorb heat. It went into the incinerator at atmospheric temperature and came out at from 450° F. to 750° F. Several factors are involved in the final flue gas temperature. This discussion is not the exact chemistry of combustion, but is simplified to aid understanding of the process.

Boiler operators and stationary engineers call the additional oxygen needed for complete combustion "excess air". When buying fuel for a boiler, excess air, that is, more than is needed for complete combustion, results in wasted fuel or heat. This can prove a costly factor in boiler operation.

THE PHOSPHORUS PROBLEM

The problem of phosphorus from bones glazing the brickwork becomes a difficult problem with hospital incinerators. Phosphorous deposits not only raise the floors of grates or bricks unevenly, making them hard to clean, but also will shut off air passage through the grates. These deposits look very much like melted glass, but are much harder, and there is no easy way to remove them.

Phosphorus is a problem of hospitals only; mainly those affiliated with medical schools that use animals for experiments. Experimental animals may have a pathogenic disease and burning is the only safe way to dispose of them.

Operating temperature should be approximately 1200° F. to aid combustion, but not over 1800° F. to protect brickwork. The heat content of refuse can be figured at approximately 7000 BTUS per pound. As a standard, .85 of a pound of refuse will be consumed for each 1000 pounds of flue gas produced.

A hospital incinerator load is such that the use of heat from combustion can hardly be counted on as a savings factor if it is designed into the system. Tempering water for domestic or boiler use is the most common heat-recovering method.

THE CHARGING CHUTE

Charging chutes and doors must be given consideration, in terms of the inflammability of material charged, as well as velocity upset when the doors are open. A charging chute is a tube extending through the incinerator wall or roof with a door on the outlet or inlet, or in some instances both. It may be filled or charged with a batch of refuse while one load is being consumed on the grate. It can be a tube extending from the floor of a sorting room down to the incinerator. If the height is very great, the chute can act as a chimney when the charging door is opened. A door at the top and one at the bottom, with a mechanical device preventing them from both being opened at once, is an interlock.

Medicine, which often basically includes alcohol, and which is disposed of in trash endangers the operator. Boxes of trash spilled in the charging chutes have been known to burst into flames with explosive force. Interlocks on charging doors or chutes, front feed in well ventilated spaces around an incinerator and trained

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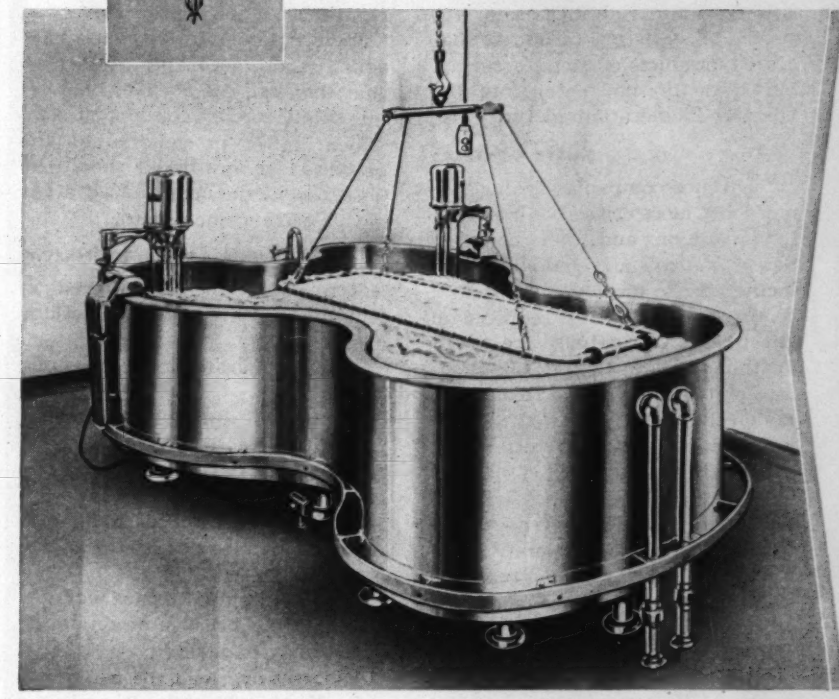

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CONTROLLING THE OPERATION

Normally, a draft moves through the incinerator and up the stack. When a door is opened between grate and chimney, such as over a drying shelf, this action short circuits air through the open door and up the chimney. This leaves the load burning, but the combustion gases accumulate below the open door. When the door is closed, the draft is reestablished, which may cause a violent puff. This is known as a draft velocity upset, and it can dislodge brickwork.

Draft must remain available during charging without excess after charging door is closed. Mixing velocities enter into the problem as to heat content of material, inflammability, steam or smothering gases generated. Turbulence by jet or overfire air admission should be considered to aid mixing. Gases in flues should make at least two right-angled turns. Gases should enter a settling chamber before entering the flue to trap fly-ash. The chamber should have a large throat area to slow down velocity to approximately 15 feet per second to drop out solids. Flue and chimney velocity of 25 to 35 feet per second should be used. If velocity from the firing chamber to the stack is too high, flarebacks through charging openings may be the result.

SPECIAL CONSIDERATIONS

When burning pathological remains that have been preserved in alcohol, the problem is not one of ignition, but one of providing enough air to keep down the heat and smoke. This problem is best handled by bringing the furnace temperature up to approximately 1700° F. by auxiliary fire and blowers. When the load is charged into the incinerator, the fuel supply should be cut off, but the blower should continue to run. This will give ample air and good combustion.

Radioactive material used in research has created a new problem. Ash handling and flue gas must be given special attention because the Atomic Energy Commission has certain requirements to be met. The flow of air that passes through a furnace must be sufficient to dilute the radioactive content below certain standards.

Primary burners are used to prepare material for burning. Secondary burners are used to add heat to combustion gases, but are located to avoid accelerating the rate of burning. Wasteburners are used in industrial incinerators to get rid of waste gas or liquids that are by-products of manufacturing, but these do not enter into the hospital incineration picture.

SAFETY CONTROLS

Insurance companies are getting more and more critical of incinerator inspections and safety controls. Safety controls are applied to each incinerator to meet its own special requirements. Controls required on gas-fire incinerators are: (1) draft-indicators; (2) pilot light solenoid; (3) low voltage release relay on the blower, and (4) damper interlock. All these factors are in series with a gas solenoid shut-off valve that will be tripped into action upon failure of any necessary function in safe operation.

The incinerator is a great fire hazard. Trash may become soaked with inflammable liquids. Empty containers with residual hydrocarbon products become fire hazards in themselves. Dangerous material from a pathological standpoint is often thrown directly into a "closed-down" or "idle" incinerator. Hot brickwork or ashes may generate fumes from these materials, which will then flash or explode. Any introduction of material into an incinerator after routine burning hours should be well supervised.

MAINTENANCE AND INSPECTION

The routine cleaning of grates and ash pits and settling chambers is a *must*. Brickwork spalling, cracking or dislodging should be repaired before any metal structural parts become exposed to the heat of combustion. If the metal becomes so hot as to warp, there no longer is a straight surface to work brick to. Also, the expansion of the metal being greater than that of the brickwork, can pull down an entire wall.

One satisfactory method of treatment of brickwork is to pack fire clay into cracks and voids with a "packing jack hammer". Spare grates should be kept on hand to replace those that warp and break. Boiler makers make the best incinerator repairmen. Safety inspection by the insurance inspector is a good policy because his attitude is: never let a situation exist where any set of circumstances can cause an accident or fire.

Incinerators are so varied in construction, according to the job that they are designed to do, that all safety orders or precautions which apply in general to the operation of any boiler should be observed in the operation of a gas or oil burner incinerator.

RULES TO FOLLOW

Ten points to be followed to lengthen the life of an incinerator are:

1. Clean grates and ash pits daily.
2. Keep all draft passages clear.
3. Operate dampers weekly. Pulleys may cease to function because of ash dust.
4. Keep cans, bottles and other noncombustibles out of the incinerator.
5. Ventilate the furnace well before lighting because accumulated fumes may explode.
6. Don't overload the furnace.
7. Keep materials stirred and loose, exposing them to air so they will burn readily.
8. Give smoking fire more air.
9. Don't strike brickwork with bars or rakes.
10. Learn what may be burned to avoid overheating the brickwork. Remember, any rapid change or uneven change of temperature damages the brickwork.

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personnel changes

● **William S. Atkinson** has been appointed administrator of Piqua (Ohio) Memorial Hospital. He is a graduate of the program in hospital administration at the University of Michigan, and was formerly the assistant administrator of Crittenton General Hospital, Detroit.

● **Orville E. Bakko** has been appointed to succeed **Elmo M. Carpenter,** retiring administrator of the Fairmont Hospital Division of Alameda County (Calif.) Medical Institutions. Mr. Bakko holds a master's degree in hospital administration from Northwestern University, and was administrator of Kadlec Hospital, Richland, Wash., before joining Alameda County Medical Institutions in 1956.

Mr. Carpenter is a graduate of the University of California and the University of Chicago. He came to Medical Insitutions in 1946, and became administrator of Fairmont Hospital in 1948.

● **Gerald A. Bishop** has been named assistant to the administrator at Carraway Methodist Hospital, Birmingham, Ala. He was previously assistant administrator at Glynn Brunswick Memorial Hospital, Brunswick, Ga. He holds a bachelor's degree and a master's degree from Emory University, Atlanta.

● **Richard A. Bogg** has recently been appointed assistant administrator at the Port Huron Hospital. He was formerly administrative assistant at the Good Samaritan Hospital, Vincennes, Ind. Mr. Bogg received his master's degree in hospital administration from Washington University, St. Louis, Mo.

● **Walter R. Brungard Jr.** has been named administrator of Blanchard Valley Hospital, Findlay, Ohio. He received his master's degree in hospital administration from the State University of Iowa (Iowa City) and has served as assistant administrator of St. Luke's Hospital, Davenport, Iowa, and Theda Clark Memorial Hospital, Neenah, Wis.

● **Clement C. Clay, M.D.,** associate professor of administrative medicine and co-director of the program in hospital administration at Columbia University School of Public Health and Administrative Medicine will be on sabbatical leave during the spring term. He has been appointed visiting professor of Administrative Medicine at the American University of Beirut, Lebanon.

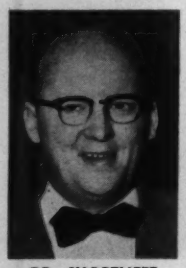
● **Marcus E. Drewa** has been named administrator of Knapp Memorial Methodist Hospital, Weslaco, Tex., a 100-bed hospital scheduled to open in December. Mr. Drewa was formerly assistant administrator at Baptist Memorial Hospital, Kansas City, Mo., and holds a master's degree in hospital administration from Northwestern University.

● **Lawrence J. Dutel** has been appointed assistant administrator for clinical services at Hôtel Dieu Sisters' Hospital, New Orleans. Mr. Dutel received a bachelor of science degree in health education from the University of Houston (Tex.) and a master of science in hospital administration from Northwestern University. He previously served as assistant administrator for clinical services at University Hospital and Hillman Clinic, The University of Alabama Medical Center, Birmingham.

● **Raymond S. Jackson, M.D.,** administrator of University Hospital at the New York University Medical Center, has been designated University physician and director of University Health Services. He succeeds Douglass S. Thompson, M.D., who resigned to accept a similar post at the University of Pittsburgh.

● **J. Landon Rule** has been appointed assistant administrator of the Ponca City (Okla.) Hospital. He is a graduate of the program in hospital administration at Northwestern University, and previously served as personnel director, Central State Hospital, Norman, Okla.

● **Ernest C. Shortliffe, M.D.,** has resigned as associate executive director of Hartford Hospital to accept the position of executive director of the new Presbyterian-University Hospital, Pittsburgh, which is associated with the University of Pittsburgh. Dr. Shortliffe will assume his new duties next month. Dr. Shortliffe joined the administrative staff of Hartford Hospital in 1954. He is a trustee of the Connecticut Hospital Association and chairman of its council on professional practice. He is also director of the National League for Nursing and chairman of the committee on outpatient services of the American Hospital Association.



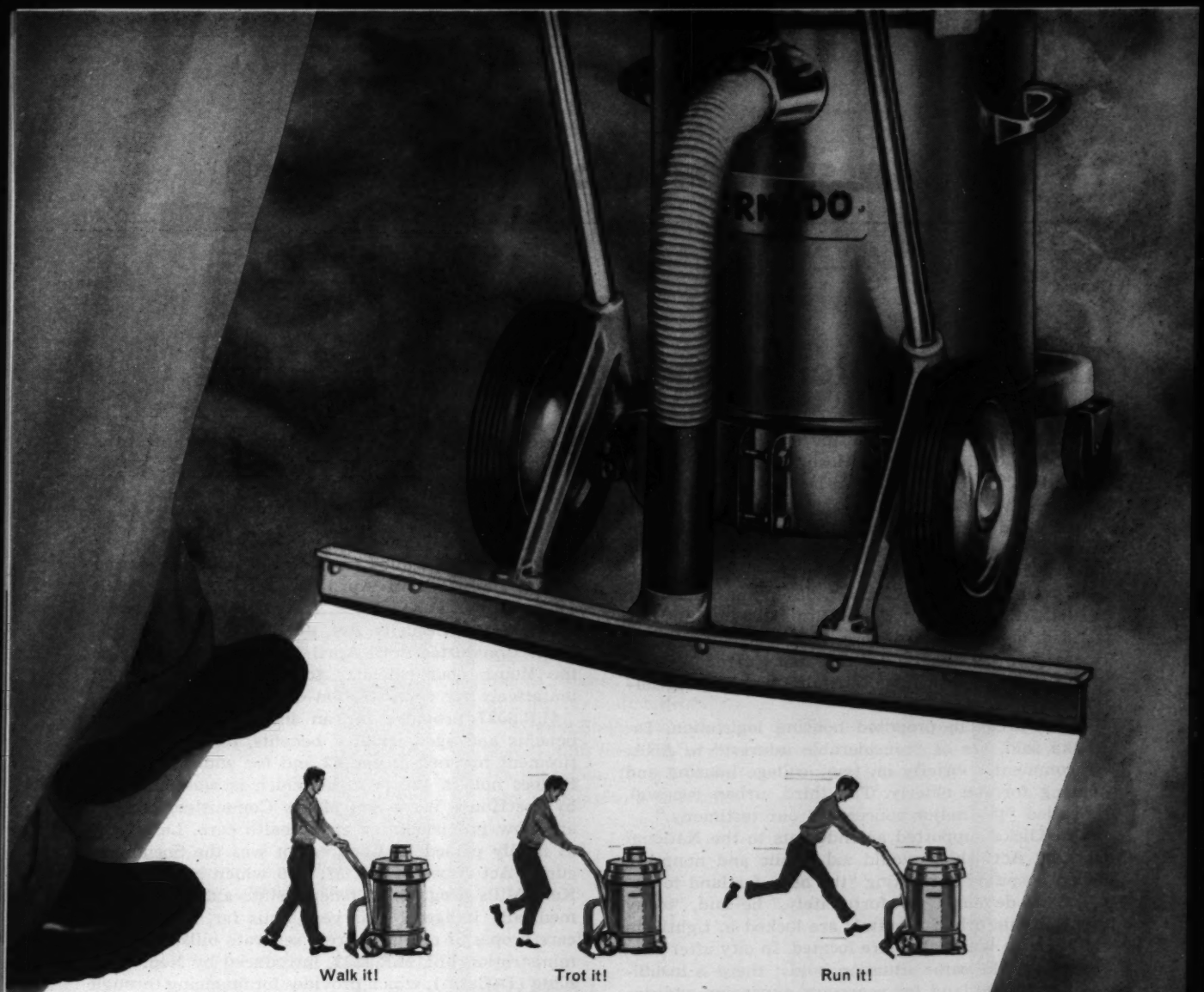
DR. SHORTLIFFE

● **John L. Sundberg** has been named administrator of Norwalk (Calif.) Community Hospital. He was formerly administrator of the Pacoima (Calif.) Memorial Lutheran Hospital and prior to that, administrator of Crenshaw Hospital, Los Angeles. He succeeds **Ralph C. Opperman,** who resigned.

Deaths

Josephine Halvorsen, 83, for 37 years superintendent of the Port Huron (Mich.) General Hospital, died April 8. A graduate of the Harper Hospital training school for nurses in Detroit in 1908, Miss Halvorsen was a pioneer in the mental health field in Michigan. She initiated the establishment of the first mental health clinic at the Port Huron General Hospital, and worked closely with physicians and the juvenile court in handling patients sent to the clinic.

Miss Halvorsen was born in Ausable, Mich., and since her retirement in 1946, had been residing with her sister in Leonia, N.J. She was a member of the Michigan State Nursing Association and the Michigan State Nursing Board, and was a life member of the American Hospital Association and the American Red Cross.



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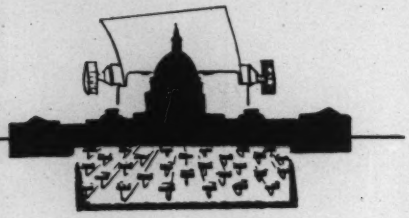

AHA Urges Modernization of Urban Hospitals

A Congressional subcommittee was told by a representative of the American Hospital Association that the nation "still suffers from a lack of sufficient hospital facilities and perhaps even more importantly, it suffers from a deterioration of existing facilities in urban areas." The statement was made by Karl S. Klicka, M.D., executive director of the Hospital Planning Council of Metropolitan Chicago and a member of the AHA Committee on Hospital Planning. He testified on April 11 before the Subcommittee on Housing of the Senate Banking and Currency Committee, holding hearings on pending housing legislation.

Three areas in proposed housing legislation, Dr. Klicka said, are of "considerable interest" to AHA. He commented briefly on two: college housing and housing for the elderly. The third, urban renewal, he called "the major concern of our testimony."

Dr. Klicka supported amendments to the National Housing Act which would aid public and nonprofit urban hospitals in meeting "the need for land to expand and develop." "Unfortunately," he said, "today many of our urban hospitals are locked in tightly in the areas in which they are located. In city after city, essentially the same situation holds: there is insufficient available land for necessary expansion and developmental purposes."

AHA testimony underlined the important role of urban hospitals in research leading to "continued developments and advancements in medical science and practice." It is "predominantly the urban hospitals," Dr. Klicka said, "which are engaging in this activity. But frequently their ability and desire to expand their research activities may be forestalled because they are unable to acquire necessary additional land for their research buildings." He emphasized that "we must go forward in these endeavors if we are to continue to make the best possible health care available to the American public."

In his references to the college housing program, through which hospitals have been aided in developing housing for student nurses, medical interns and residents, Dr. Klicka said Congress has taken "positive steps." He pointed out that "the availability of such housing is directly related to our ability to meet the growing health needs of the country. Congress has wisely recognized this relationship."

Dr. Klicka stated that he also wished "to commend the Congress" for "its efforts to provide adequate housing for the elderly. Such housing has definite long-range implications for our planning to meet the health needs of the elderly."

Social Security Amendments Cleared for House Floor Action

Originally scheduled for House floor consideration during the week of April 10, H.R.6027, the Mills (Rep. Wilbur Mills, D-Ark.) bill, proposing changes in the Social Security Act, did not clear the House Rules Committee until April 13. It was then put on the House floor calendar for the following week, tentatively for consideration on or after April 19.

H.R.6027 provides for an increase in minimum benefits and aged widows' benefits, for optional retirement for men at age 62 and for wider coverage. It does not, in the form in which is was approved by the House Ways and Means Committee, propose any new provisions for aged health care. Last year, as finally passed by Congress, it was the Social Security Act Amendments of 1960 which included the Kerr-Mills program of federal-state aid to the aged medically indigent. This year, thus far, aged health care proposals are in entirely separate bills. The Administration bill, H.R.4222, introduced by Rep. Cecil King (D-Calif.), which provides for financing through the social security system, was still unscheduled for House Committee consideration in late April.

Congress Moves on Other Health Bills

The four-year extension of the practical nurse training program was speedily approved by both House and Senate after Congress' Easter recess. The bill cleared for the President on April 12 was S.278, introduced by Sen. Lister Hill (D-Ala.) and a companion to the House measure, H.R.4104, sponsored by Rep. Robert Giaimo (D-Conn.). The legislation extends the program to June 30, 1965, with a ceiling of $5 million per year for grants to states.

Extension of aid to dependent children, an Administration program, moved closer to passage when the Senate Finance Committee approved H.R.4884 on April 13. As introduced by Representative Mills and passed by the House a month earlier, the bill would provide federal aid under the Social Security Administration's public assistance program to dependent children of unemployed parents. Under current law, the only dependent children eligible for this aid are those whose fathers are incapacitated, dead or have deserted their families.

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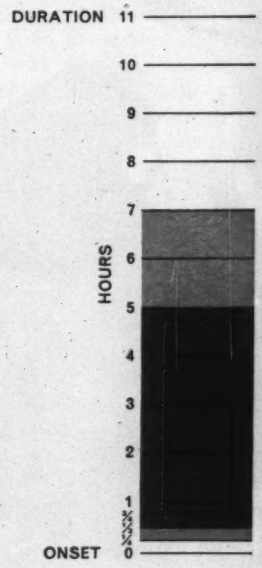

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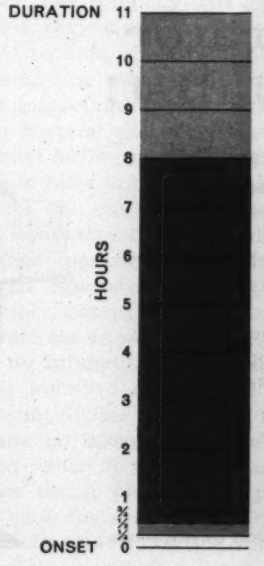

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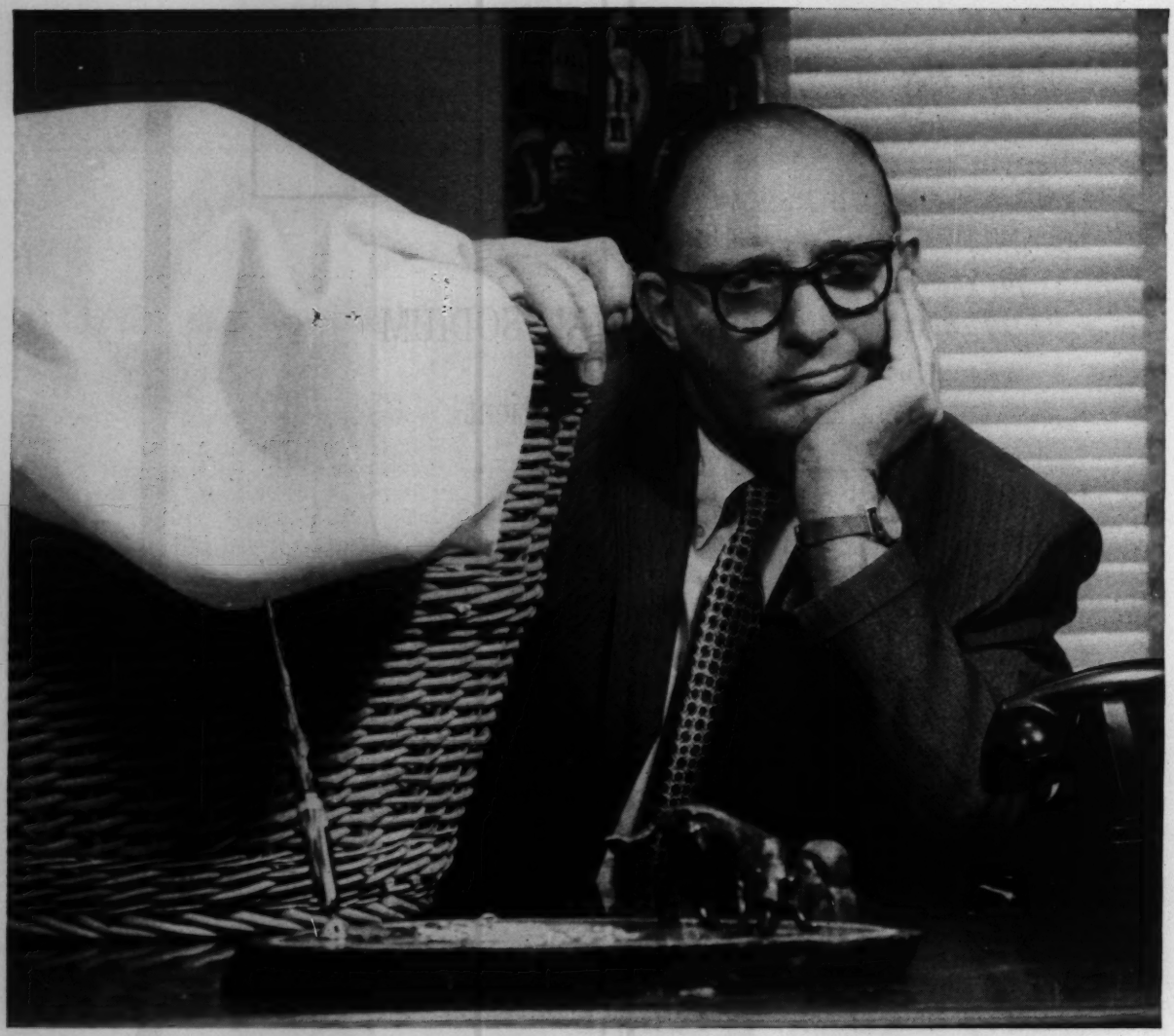

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THE LAW IN BRIEF

Legal matters of interest to the hospital field prepared by the law department of the American Hospital Association

More on Disclosures from Medical Records

The importance of the information contained in medical records to hospitalization insurance carriers necessitates a clear statement of the law with regard to disclosures from these files. A federal district court in Oklahoma has recently approved an agreement between representatives of a hospital and an insurance carrier concerning the release of medical record information. The court's conclusion is contained in a memorandum opinion which states its view of the controlling law. *Pyramid Life Insurance Company v. Masonic Hospital Association,*—F. Supp.—(D.C.W.D. Okla., Feb. 1961).

The plaintiff insurance company was under the impression that the hospital had been reimbursed for some services which did not appear in the medical records and asked for a refund of those charges. In addition, the company sought to make photocopies on the hospital premises of the full medical record of all cases in which it was interested, where it had made payments on behalf of the insured patients. Some of the patients had ceased to be insured by the company and a few of the hospitalizations were completed many years earlier.

CONSENT LASTS THREE YEARS

The particular dispute was resolved when the court ordered the hospital to acknowledge the authorization made by patients (or adult members of the family of incompetent or minor patients) to inspect and copy the record. The company was to be allowed to examine, inspect, review, copy and/or reproduce any and all medical records, charts and histories related to these patients. The restrictions on the company were that the inspection was to take place on the premises of the hospital and under the supervision of hospital personnel during normal business hours; authorization would have to be in writing and not more than three years old; the hospital was to be reimbursed for the customary charges involved in servicing the insurance company's representative.

As to the legal aspects of the case, the court held that the insurance company, being an out-of-state corporation, could sue in the federal court and would be entitled to an injunction on the assumption that the controversy involved at least the $10,000 jurisdictional minimum of this court. In a suit for an injunction, the amount in contention for jurisdictional purposes is the value of the right to be protected rather than the dollar amount the plaintiff might recover in the case, the court concluded.

The opinion notes that under the statutes of Oklahoma, the hospital is required to keep and retain accurate and complete medical records of its patients. This makes the records at least quasi-public. Such records may be inspected by persons having a legal interest, that is, one which might be enforced in court. The insurance companies have a legitimate interest in determining whether their claims are truly obligations under their contracts and they should not be forced to make payment without making the investigation they deem necessary, the opinion states.

The court further found that the medical record itself is the property of the hospital, but that the keeper of the records does not have the right to possess and use the information constituting the records to the exclusion of the patient, his representatives, or those standing in his shoes. At the same time the court acknowledged that the hospital cannot with impunity disclose the medical record information without permission of the patient. So it was held that the hospital is the custodian and not the owner of the information which is contained in the records.

WHO OWNS INFORMATION?

Because the patient has a property right in the information, if not in the actual papers contained in the record, he and those authorized by him, such as his insurance company representative if armed with the proper authorization, were entitled to inspect or to copy the records without having to resort to litigation. The refusal of the hospital in this case to acknowledge the authorization and to open the records to the insurance representative was an unlawful interference with the insurer's business and was subject to an injunction.

An additional technical point was discussed by the court. When the plaintiff is denied access to the records prior to litigation, he is entitled to the discovery procedures authorized by the Federal Rules of Civil Procedure. This allows access to certain documents which are exclusively in the control of the opponent. If, as a result of this discovery procedure, the plaintiff decided that it had paid claims through fraud or a mistake of facts, it would be entitled to an accounting, the court added. Actual recovery by the insurance company in this case was $127.65 which was erroneously paid to the hospital through a mistake of facts and not as a result of fraud. The company had claimed that there were 176 cases in which it had overpaid the hospital.

As a result of this decision, it appears that an authorization which is less than three years old, whether an original or photocopy, will allow insurance

This material is not legal advice. The information on this page should not be used to resolve legal problems. For advice on such problems a hospital should consult a member of the local bar.

representatives to make a full and complete inspection or copy of the medical records. Thus, it is possible that they would find information otherwise denied them and be induced thereby to bring action against the physician or against the insured patient himself. What has not yet been resolved is whether the hospital could request the patient to sign an admitting form which provides that after the passage of a certain amount of time, all accounts will be as stated and not subject to contest. If such a document were utilized, it might be upheld, although in conflict with the more liberal authorization contained in the insurance policy or possessed by the insurance company, since the hospital authorization would be the more recent as well as the more restrictive.

DOCTOR "ADOPTS" RECORD ENTRIES

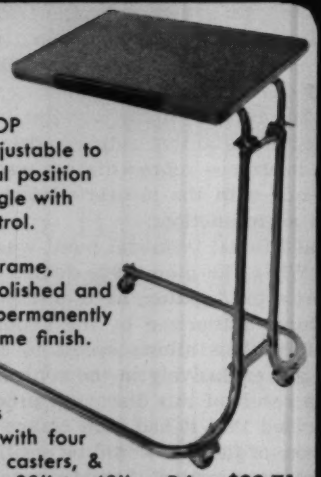
In a recent malpractice case, the question of admissibility of hospital records was resolved. The plaintiff attempted to admit the hospital records to show the entries made by resident physicians on the theory that they were the agents of the defendant attending physician. The lower court held that portions of the hospital records made by nurses, interns, pathologists and other hospital employees, who were not available in court as witnesses and who were not subject to cross examination, would not be admitted as evidence.

The appellate court held that since the entries in the hospital record appeared to have been made in the normal course of hospital procedures, as much of the record as was "pathologically germaine to the condition of the patient" was admissible under statutory provisions. Furthermore, the court noted that since the defendant (attending physician) examined and approved all of the entries made by the others in the hospital record, as evidenced by his notations on the chart, regardless of whether made under his supervision and direction or not, he admitted by adoption that all the entries were really his own. This adoptive admission allowed so much of the hospital record to be used in evidence at the trial as was not immaterial, irrelevant or otherwise subject to legal objection. *State of Maryland v. Brainin,* 167 A. 2d 117 (Md. App., 1961)

Hospital Must Name Nurse

Prior to filing suit, a former patient asked the hospital to identify a nurse. The patient had stumbled while being directed to the washroom by a nurse or nurses' aid, instead of receiving bedside attention, and fractured a hip as a result. When the hospital refused the desired information, the patient made application to the local court. The hospital was ordered to consult its records and identify the employee because in New York "a plaintiff in a negligence action may examine a defendant for the purpose of identifying one or more other proper defendants to frame a complaint." There was no showing of bad faith on the part of the patient nor could the hospital demonstrate that it would be greatly inconvenienced or prejudiced by the required disclosure. *Cidilko v. Palestine,* 207 NYS 2d 727 (1961).

OVERBED TABLE



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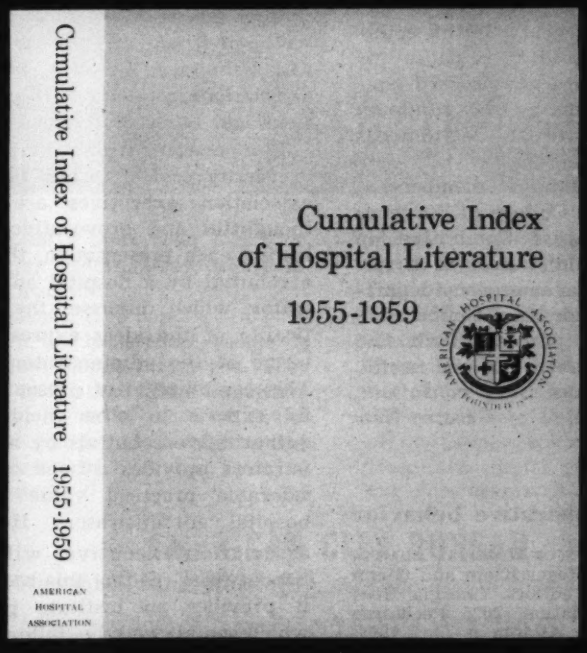

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book reviews

British hospital emergency services

also:
Administrative behavior

CASUALTY SERVICES AND THEIR SETTING: A STUDY IN MEDICAL CARE. Nuffield Provincial Hospitals Trust. London, Oxford University Press, 1960. 135pp. $1.20.

In the summer of 1958, the Nuffield Provincial Hospitals Trust embarked on a survey of 20 casualty departments in 14 areas of England to determine whether widespread criticisms of casualty services in that country were justified. A special study team, which included a core of practicing clinicians, visited each hospital to evaluate the work of its emergency program. This book is a report of their findings.

What was uncovered strikes a familiar note. Despite some differences in terminology (which should present no difficulty to the informed reader), the findings might well describe the emergency services of a similar group of hospitals in this country. Poorly housed and equipped departments unable to attract the best kind of staff, or to hold them for a sufficiently long time, are the inevitable result of the low regard accorded casualty departments in the medical care scheme. In many instances the presence of a dedicated nurse is all, just as in this country, that keeps the emergency service productive and an asset to the community.

The report points to the need for leadership and urgent executive action on the part of hospital authorities to review, reorganize and improve casualty services, vividly recalling to this reviewer's mind Dr. Robert H. Kennedy's appeal to "give the emergency room the status it deserves" (HOSPITALS, J.A.H.A., March 16, 1957).

Other recommendations refer to the need for (1) closer cooperation with industrial health services; (2) a strengthening of the link between the hospital and the general practitioner (since, as the report notes, the service provided by general practitioners has a bearing on the way in which casualty departments are used by the public) and (3) the desirability of closing many casualty departments as presently conceived to concentrate emergency services in designated centers.

Special note is made of the poor planning in some of the newer departments visited. Careful studies of the functional requirements of casualty departments are strongly urged with a view to applying the results to new buildings, as well as to the renovation of existing facilities.

The report outlines the technique developed by the study team for studying emergency services and suggests how the procedure might be utilized elsewhere.

The American reader will perhaps be most impressed by the discovery that despite the establishment of a National Health Service and a general upgrading of hospital services in recent years, emergency services in England share the same disturbing defects as their counterparts in this country. This should give pause for thought to those who regard government action as the *summum bonum* in meeting the health needs of the public.

Hospital planners, members of the American College of Surgeons State and Local Committee on Trauma, administrators of hospitals with active emergency departments and students of comparative medical care programs will find this report interesting and useful. —J. P. PETERS, *staff consultant, Hospital Council of Greater New York.*

Administrative behavior

THE PROFESSION OF HOSPITAL ADMINISTRATION. Roger Klein and Glenn M. Hogan, editors. Georgia Hospital Association, 2025 Peachtree Road, N.E., Atlanta 9, Ga., 1960. 85 pp. $2.

This book, a compilation of papers presented at an institute in Atlanta, December 1959, explores the hospital administrator's job in depth—the scope of his responsibilities, the skills demanded of him, the resources available to him and his use of them. As the editors state, "The intent is that the mainsprings of administrative behavior be laid bare, that the responsibility of those who profess membership be made clear and that general areas of thought important to professional development be explored."

Although chapters are by individual authors, a central theme is evident throughout, which is that the administrator cannot properly discharge his office by operating the hospital as a unit separate from its external environment. Rather he must approach his job in terms of the total environment in which the hospital operates, recognizing the external forces which are acting upon the hospital and drawing freely upon outside resources. Each chapter discusses one facet of this total environment—governmental and voluntary agencies, hospital associations, related health professions and other professions.

The presentations made by university professors and hospital association executives are both thoughtful and provocative. Following each presentation, there is a rebuttal by a hospital administrator, which discusses the practicality of the ideas expressed in terms of the administrator's job. This combination of presentations by experts in other fields and authoritative rebuttals by administrators provides a book of considerable practical value to all hospital administrators. Hospital association executives will also benefit from reading this book, for it provides an institute pattern which could well be followed in other areas of the country.

—WILLIAM S. SCHMIDT

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Union Memorial
New Ulm, Minn.

United Hospital Fund
Kansas City, Mo.

United Hospitals of Newark
Newark, N. J.

Espanola
Espanola, N. M.

St. Thomas
Akron, Ohio

Community Memorial
Marion, Ohio

Memorial
Mount Vernon, Ohio

Central Washington Deaconess
Wenatchee, Wash.

Lutheran
Beaver Dam, Wis.

St. Joseph's
Marshfield, Wis.

AT NEW ENGLAND HOSPITAL ASSEMBLY—

Hospitals Will Withstand Forces Of 'Federalism,' Says AHA Head

The president of the American Hospital Association, Frank S. Groner, predicted at the New England Hospital Assembly that hospitals would withstand the trend toward centralization and remain free institutions.

At the annual president's luncheon at the assembly March 20-22 in Boston, Mr. Groner, administrator of the Baptist Memorial Hospital, Memphis, Tenn., said that the principal ideological issue to be settled in the present decade is that "of local authority versus federalism. This issue is one on which we must make a choice in this decade. This choice is fundamentally one which lies between central planning with its inefficiencies and regimentation, or a political authority residing in the fluidity and imagination of local citizenry.

"We must concede that there is a strong current that is directing us to a political centralization . . . hospitals will not be exempt from the force of this tendency (and) in fact, because of the nature of services offered by the hospital, it is a most vulnerable institution."

COSTS MUST BE EXPLAINED

He said that in order to resist this trend toward federalism, hospitals must retain their inherent right to determine their own financing. He said the principle of prepayment, and especially the concept of Blue Cross and Blue Shield, must be continued and strengthened. Hospitals must explain costs, he said, and they must use voluntary controls. In this fashion, Mr. Groner predicted, the challenges of the decade could be met and hospitals would remain free institutions.

In related talks, controls were discussed against the grid of utilization. Edwin L. Crosby, M.D., director of the American Hospital Association, set the background for the talks by describing the basis for the current public concern about utilization. He said that the concern came from (1) the rising costs in hospital care; (2) the explosive expansion of prepayment and its direct impact on the income of the subscribers with prompt reflection of increased costs; (3) the increasing attention being paid to health care as a collective bargaining objective and thus desires on the part of those who obtain the bill, whether labor or management, to reduce utilization, and (4) the statements of public officials and others at hearings at which proposed prepayment increases were debated.

It was unfortunate that all the public attention had been placed on the potential overutilization because, Dr. Crosby said, underuse is a greater misuse than overuse. Underuse is bad health care, he said, and overuse is inefficient and costly. He said the objectives of those in the health field should be to see to it that those who need care get it and those who don't, don't.

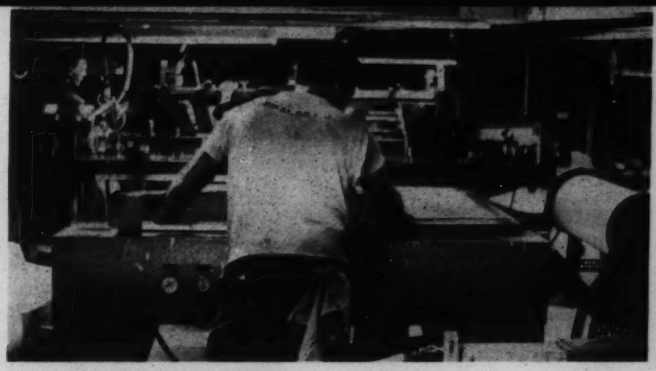
UTILIZATION MEASURED

Walter J. McNerney, director, program in hospital administration, University of Michigan, Ann Arbor, said work in Michigan had shown that the effectiveness of utilization could be measured. He said that the effort would be used and the only question is where the controls would be exerted—whether they would be exerted from within the hospital scheme of things, through hospitals themselves, through prepayment, through hospital associations, or from without the hospital scheme of things, through government.

He gave a few of the findings of his study. He said that the patients who paid for themselves tended to use the hospital less than was considered proper and those who were paid for by third parties tended to use the hospital more than was considered proper. However, the study found 97 per cent of all admissions appropriate within the criteria used, with 83 per cent of the stays within the range of appropriateness. Of the remainder, 7 per cent understayed and 10 per cent overstayed, he said.

Robert M. Sigmond, executive director, Hospital Council of Western Pennsylvania, Pittsburgh, said that those who were responsible for hospitals risked losing control of hospitals if they passed the uti-

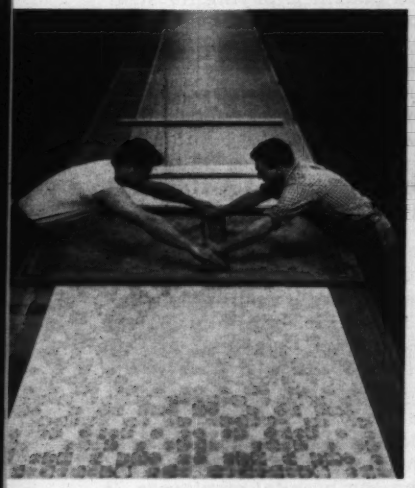
NEW ENGLAND HOSPITAL ASSEMBLY OFFICERS (left to right, seated): president-elect, Norman R. Brown, administrator, Concord (N.H.) Hospital; president, Elmina L. Snow, R.N., administrator, Emerson Hospital, Concord, Mass.; trustee, Rev. Stephen K. Callahan, secretary to the bishop for hospitals, Our Lady of Fatima Hospital, Providence, R.I.; (standing) trustee, Vernon L. Ballard, administrator, Portsmouth (N.H.) Hospital; trustee, Isidor S. Geetter, M.D., past president, Mount Sinai Hospital, Hartford, Conn.; trustee, Joel H. Walker, administrator, Barre City (Vt.) Hospital; trustee, John L. Quigley, administrator, Soldiers Home, Chelsea, Mass.



Above: Semi-automatic machinery prints rapidly and accurately while maintaining the essential hand-crafted quality.

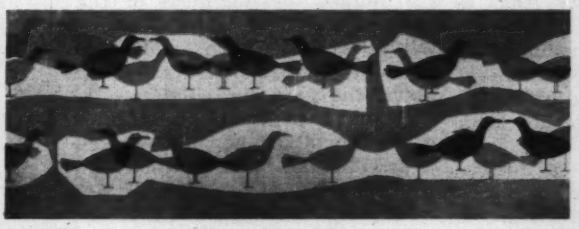
Far Left: The "art" of wallcovering is the concern of the design department. The award-winning creations of the design staff are the result of an appreciation of the best in contemporary and historic design.

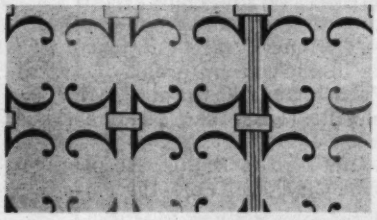
Left: Basic tool of the hand-print process, the silk screen stencil is made in the screen department. Exactness of reproduction and quality of detail are obtained through the latest photographic methods.



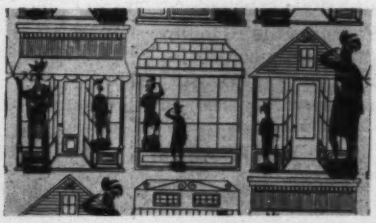
Above: Uniformity of production, standards and accuracy of custom color mixing are the result of painstaking care.

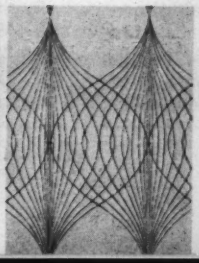
Left: 60" table width for printing wide width wall covering and heavy weight vinyl upholstery.





Four patterns from the Volume 10 collection available on canvas, vinyl Shiki silk as well as paper.





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lization responsibility to others. He called utilization a team problem because, he said, control of inpatient utilization is the key to control of hospital costs.

Mr. Sigmond said that a basic difficulty was in the separate measurements of desirable utilization. He said that hospital efficiency increased as census rose, and therefore the way to control present-day costs was to maximize patient day utilization. The consumer measured it on the number of patient days per thousand population and therefore the consumer wanted the total of patient days reduced to produce the most favorable factor. Mr. Sigmond said that while this presented a problem it was an insoluble one, and that what had to be done was to reduce the number of debts and facilities to the lowest possible level consistent with high-quality and effective care. He said that 25 per cent of the beds throughout the United States were empty at all times.

MEDICAL CARE CHANGING

Four speakers on another panel agreed that there had been tremendous changes in the practice of medical care in hospitals and then discussed what they thought ought to be done about it. The speakers were Albert W. Snoke, M.D., executive director, Grace-New Haven Community Hospital, New Haven, Conn.; John L. Rowbotham, M.D., surgeon, New England Deaconess Hospital, Boston; Ruth Sleeper, R.N., director of nursing, Massachusetts General Hospital, Boston, and Hans O. Mauksch, Ph.D., director, department of patient care research, Presbyterian-St. Luke's Hospital, Chicago.

Doctor Snoke led off by saying that the nursing unit in a hospital is no longer a nursing division, but a patient-care division of which nursing is just a part. He said that no longer was there such a sharp demarcation between the practice of medicine and the practice of nursing and the practice of hospital care. He called the doctor the captain of the team and not a solo performer.

PHYSICIAN: TEAM CAPTAIN

The other physician, Dr. Rowbotham, agreed that he was the captain of the team, but not the whole team any longer. He said that he for one was "ready to admit that I cannot give complete care to my patient." He said that things like the recovery room and intensive care rooms had encroached upon the doctor's practice and some doctors resented it.

Miss Sleeper urged that the old phrase "bedside nursing" be changed to "patient-side nursing." She saw the nurse becoming more and more a coordinator. She said that the professional nurse was sort of an assistant to the doctor and noted an increasing trend to push the nurse into the areas where there are types of observations which assist the physician in his practice of medicine. She said one of the real problems was how to give a well-equipped staff nurse the status and the reward she needs, but still keep her at the staff nurse level, if that is what she does the best.

Dr. Mauksch outlined what he termed a sharp distinction between home and office practice and hospital practice. In home and office practice, the doctor is fighting a single-handed duel, he said, "against the monster of disease. In the hospital, he is leading an army against the monster of disease." The sociologist pointed out that in duels, the victor has greater freedom and wins greater glory. But when he leads an army, the freedom is limited and the glory is shared. He said his study in Chicago showed that the surgeon spends an average of from 9 to 15 minutes with his patient in close surgical care in cases lasting six days. He wondered why so many express fear of this figure if they really believe in the team concept.

Frederic C. LeRocker, director, Sloan Institute of Hospital Administration, Cornell University, Ithaca, N.Y., told one session that the invasion by unions into management prerogatives ends at personnel administration. He said unionism, "on the basis of its record in ideology, does not want to displace us (hospital executives)—it does want us, however, to move over." He said that a grievance procedure which is exclusively "management mounted" is not effective from the labor standpoint.

Richard T. Viguers, administrator, New England Center Hospital, Boston, said hospital employees have not had as good working conditions as comparable workers in industry. He added that when wage raises have been given, "it has not been because we felt those wages were deserved, but . . . for one of two reasons." The first reason, he said, was a shortage in a particular category of personnel and the second was fear of unionization of hospitals.

Thomas Hale Jr., M.D., director, Albany (N.Y.) Hospital, said there was no question in his mind but that "nurse educators were personally exploiting hospitals and their patients for the benefit of a theoretical concept of nurse education." Compliance with the requirements for accreditation, for instance, means an immediate substantial increase in the costs of operating schools of nursing—in many cases such a marked increase that the school can no longer stay in operation, he said.

William K. Turner, director, Newport (R.I.) Hospital, said that the student nurse did not pay for her education through her services to patients and that competent studies at the Newport Hospital had shown it. He said that "if the hospital patient is paying for such a high proportion of these educational costs, the curriculum in the hospital school should be hospital oriented to the exclusion of classes that prepare for services other than hospital nursing." ■

Northport (L.I.) VA Hospital Wins Hospital Safety Contest

The Veterans Administration Hospital at Northport, L.I., N.Y., has been named grand award winner of the 1960 Hospital Safety Contest sponsored by the American Hospital Association and the National Safety Council.

The contest, completed by 326 hospitals, was designed to encourage the observance of safety practices among hospital employees. It was judged on the basis of the lowest number of injuries among hospital employees in relation to the number of man-hours worked during the year.

The more than 1400 employees at the Northport hospital worked 2,743,213 man-hours without an injury.

Hospitals taking part in the contest were divided into eight groups according to the number of employees. Winners of first place plaques in each group are:

1. Wabash General Hospital, Mt. Carmel, Ill. (Less than 100 employees).

2. South Florida Baptist Hospital, Plant City, Fla. (100-199 employees).

3. Suburban Community Hospital, Warrensville Heights, Ohio (200-299 employees).

4. U.S. Public Health Service Alaska Native Hospital, Mt. Edge-

cumbe, Alaska (300-449 employees).

5. Veterans Administration Hospital, Rutland Heights, Mass. (450-599 employees).

6. Veterans Administration Hospital, Durham, N.C. (600-799 employees).

7. Veterans Administration Hospital, Sepulveda, Calif. (800-999 employees).

8. Tripler U.S. Army Hospital, Honolulu, Hawaii (1000 or more employees). ■

Merger Announced By Lutheran Hospitals

The merger of the 135-bed Morningside Hospital, Los Angeles, with the Lutheran Hospital Society of Southern California was announced March 1 by Birger Tinglof, society president, and Fred Edwards, president of the Southwest Hospital Association, newly formed nonprofit, charitable organization which owns the hospital.

Under a management agreement, the Lutheran Hospital Society will begin nonprofit operation of the facility. The board of directors announced that John H. Wardman will continue as administrator of Morningside Hospital. ■

FBI Asks Hospitals' Aid in Apprehending Man

HARRY WILLIAM ALBRECHT: Born, Nov. 5, 1900, in Cincinnati, Ohio; weight, 215 pounds; height, 5 feet, 10 inches; eyes, blue-grey; hair, brown, greying.

The FBI is asking the help of hospitals in apprehending Harry William Albrecht, a probation violator on the basis of a federal warrant issued Sept. 10, 1957, at Texarkana, Ark.

Albrecht, who has used many aliases, has suffered severe heart attacks. When last examined by a physician, it was the opinion of the physician that Albrecht would have pains in the chest and in the area of the heart, and that he would require nitroglycerin tablets and possibly such narcotics as Demerol®, morphine, paregoric and tincture of opium.

Hospitals having any information concerning the whereabouts of this individual are requested to immediately contact the nearest office of the FBI. ■

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Groups Elect Officers

Alabama Hospital Association: President, Matthew F. McNulty Jr., administrator, University Hospital and Hillman Clinic, Birmingham; president-elect, James W. Brown Jr., administrator, Russell Hospital, Alexander City; secretary-treasurer, Winston C. Whitfield, administrator, Colbert County Hospital, Sheffield.

Puerto Rico Hospital Association: President, José Sein, M.D., Clinica Doctor J. Sein, Santurce; vice president, Cesar Corretjer, Doctors' Hospital, Santurce; secretary-treasurer, Luis Martin Jimenez, Mimiya Hospital, Santurce.

Western New York Hospital Council: President, Leon C. Carson, superintendent, Millard Fillmore Hospital, Buffalo; vice president, Martin E. Meier, administrator, Woman's Christian Association Hospital, Jamestown; secretary, Sister M. Paschal, administrator, Mount St. Mary's Hospital, Niagara Falls; treasurer, Frank H. Evans, vice president, Blue Cross Plan, Buffalo.

Wisconsin Hospital Association: President, N. E. Hanshus, administrator, Luther Hospital, Eau Claire; president-elect, Martin H. Albrecht, assistant superintendent, University Hospitals, Madison; first vice president, Harold C. Guntner, administrator, Memorial Hospital, Menomonie; second vice president, Glen L. Maher, manager, Grandview Hospital, La Crosse; secretary, Warren R. Von Ehren, executive director, Wisconsin Hospital Association, Madison; treasurer, Robert M. Jones, administrator, Waukesha Memorial Hospital, Waukesha.

Editorial notes

(Continued from page 29)

department (Chicago Board of Health) in the epidemiological follow-up of positive reactors discovered in routine hospital admission serologic tests. The hospital procedure used is: A "Report of Patient with Test Suspicious of Syphilis" is attached to each positive reactive serologic test laboratory report slip. An "Epidemiological Report Form" is then filled out for each reactor from the information obtained from the serologic test report. This epidemiological report form is sent to the Chicago Board of Health and is checked against the Venereal Disease Control Registry. If this case report is a new case and is not on file, an epidemiological investigator from the health department is sent out to follow up on the case. In 1960, more than 1700 reactives were processed. More than one-third of these persons needed treatment, and 440 were new cases of syphilis, of which 16 per cent were infectious.

The program at Cook County Hospital not only discovered cases of syphilis, but it also motivated interest in venereal disease among hospital medical and nursing personnel. Lectures were given on diagnosis and treatment of syphilis. This venereal disease program works at Cook County Hospital; it can work at other hospitals as well.

NOT ONLY IS close cooperation with the health department a responsibility to be met by hospitals, but there are also other facets of the venereal disease control program to consider. Lectures and seminars might be offered to staff physicians, residents, interns and nurses. Outpatients as well as hospital admission serological tests for syphilis should be made routine. Educational materials on venereal disease can be obtained from local health departments for distribution to hospital employees and to patients.

The hospital might well expand its venereal disease program into the community and cooperate with other agencies in holding forums for the public. In such a project, the hospital might be in alliance with the health department, the local social health association and civic and fraternal organizations. Experience has shown that where many groups work together to solve a community venereal disease problem, the cooperative endeavor has a salubrious effect in helping to bring positive results. Hospitals, health departments, physicians, citizens—everybody working together will help to bring an end to the present rise in cases of venereal disease. Now is the time for hospitals to help fight venereal

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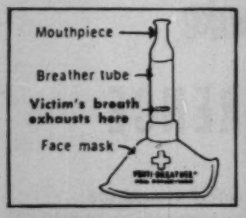

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disease.—A. B. PRICE, M.D., *regional medical director, Chicago, U.S. Public Health Service* ■

How forms control can cut paper work

(Continued from page 84)

pital of the volume and cost of paper work. Many department heads will see, for the first time, the real volume of their paper work and, again for the first time, will be forced to examine in detail the value of every bit of it.

The best start toward a forms control program that a hospital administrator could make would be to ask two basic questions regarding office and clerical expense:

1. What office work actually needs to be done in the best interests of the patient and the operation of the hospital?

2. How many people and machines are needed to do this work?

Solid answers to these questions would not only lower office costs, but they would also mark the beginning of real office management.

The problems of controlling clerical effort and expense are much like grains of sand; each one is small, but all add up to something large and important to the operation of the entire hospital. ■

A work sampling study of variations in nursing work load

(Continued from page 41)

CONCLUSION

The preceding paragraphs have discussed some significant findings of the work sampling study. It is important to recognize that these results could not have been obtained without the previous research work, and further, that these results help in the continuing research.

One example of how these results can be used in further research is related to staffing. From the Direct Care Index and the results of the work sampling study, it is possible to estimate the nursing load. This, in turn, allows the personnel needs of the nursing units to be assessed, because if the estimated work load is subtracted from the hours available for a floor, an estimate of surplus or deficit hours scheduled on a floor is obtained. If the difference is positive, it indicates sufficient staffing; if negative, insufficient staffing. At present, Johns Hopkins Hospital's operations research division is seeking appropriate responses to these differences.

How large a surplus or deficit justifies the subtraction or addition of personnel? What type of personnel should be added or subtracted? These and other questions are being asked and answers are being sought. It is not expected that the result will be a set of hard and fast rules. Rather, it is believed that a set of staffing guides, together with supervisory experience and judgment, will help to solve staffing problems. ■

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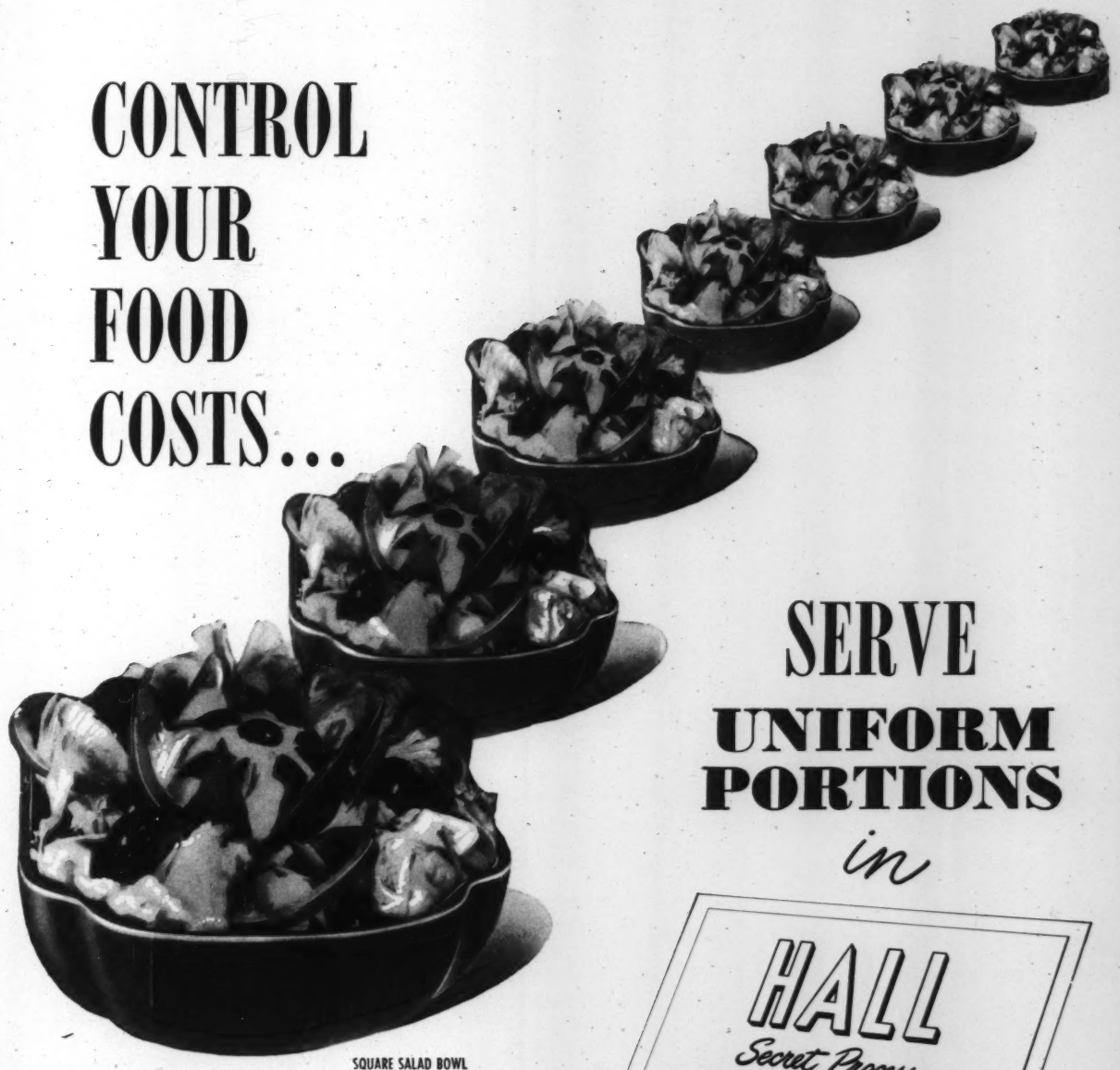

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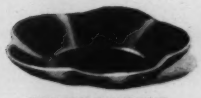

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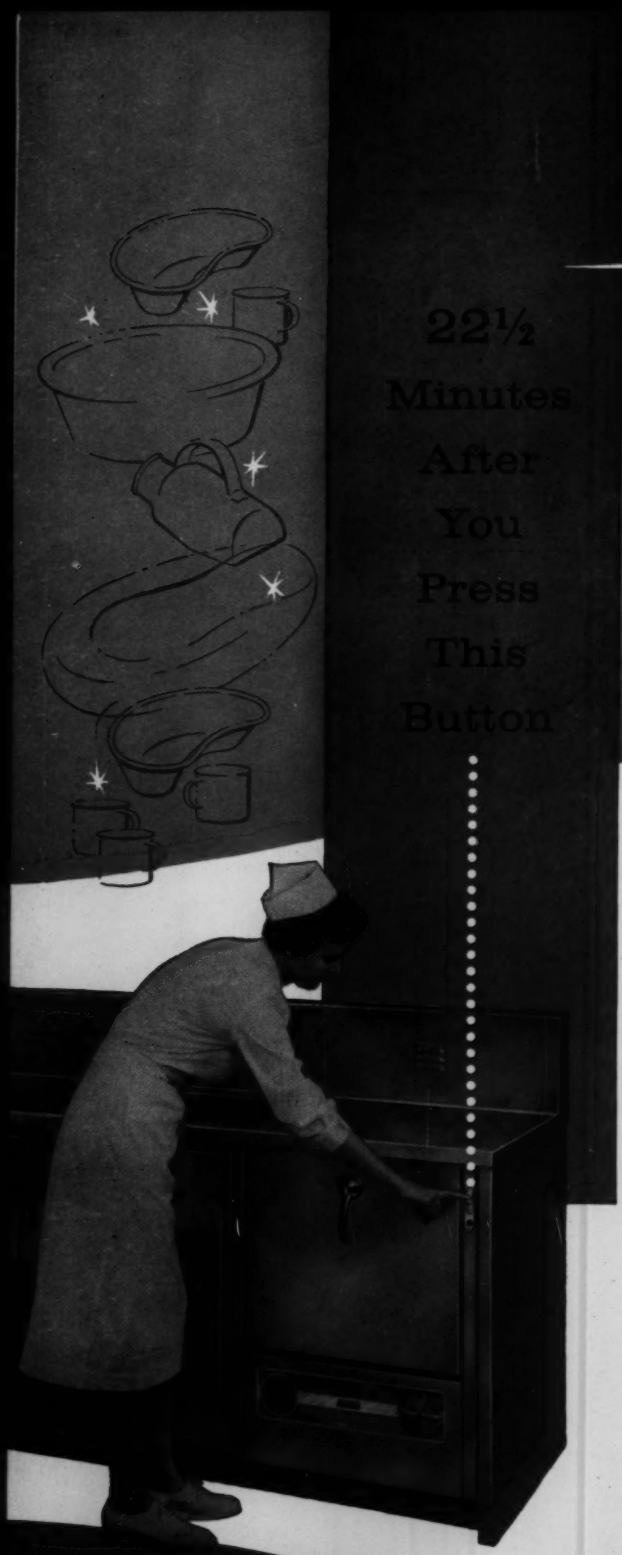

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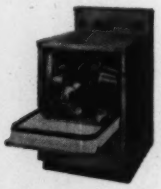

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